THE RAILWAY GAZETTE

A Journal of Management, Engineering and Operation

INCORPORATING

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DIESEL RAILWAY TRACTION SUPPLEMENT

The February issue of THE RAILWAY GAZETTE *Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price* 1*s.*

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An index to the eighty-third volume of THE RAILWAY GAZETTE *covering the issues from July* 6 *to December* 28, 1945, *has been prepared, and is now available free of charge on application to the Publisher*

TO CALLERS AND TELEPHONERS

Until further notice our office hours are: Mondays to Fridays, 9.30 *a.m. till* 5.30 *p.m.*
The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

A Socialist's Dream of a Railway Utopia

MR. W. GLENVIL HALL, Financial Secretary to the Treasury, entertained a Labour Party meeting in Birmingham last Saturday with some criticisms of railway conditions, and a forecast of how much better they would be after nationalisation. He said that he hoped to see the time when railways would get a coat of paint, when he could get a cup of tea when travelling on a Sunday, and he hoped to be able to walk into any waiting room and see a carpet on the floor, basket chairs, and, in winter, a good roaring fire. According to reports we have seen of his speech, he did not deal with such minor matters as the provision of adequate train services on an economic basis, or refer to improvements such as the return of restaurant and buffet cars, which have been made by the railways. No one is more anxious than the railways to refurbish their stations or rolling stock, even if they do not go so far as to contemplate deep carpets in wayside waiting rooms. Mr. Hall might have a word with his colleague, Mr. Shinwell, and ascertain his views on the provision of "a good roaring fire" in waiting rooms at the present time. A chat with Mr. Isaacs, the Minister of Labour, might enlighten Mr. Hall on some of the fundamental factors which are restraining the companies from going ahead with schemes of improvement, not the least of which is a totally inadequate supply of labour, coupled with the impossibility of obtaining materials. The responsibility for most of the matters of which Mr. Hall complains lies nearer his Whitehall home than the headquarters of the railways.

* * * *

Government Control of Investments

The implications of the Investment (Control & Guarantees) Bill which was introduced in the House of Commons last week, go a good deal further than had been expected. It empowers the Treasury to guarantee loans to private enterprise up to £50,000,000 a year—implementing the proposal which has been made quite widely by those seeking to ensure a full employment policy. Apart from that, however, the passage of the Bill will bring into being an entirely new approach to the control of financial transactions. The control of capital issues, which was established as a wartime expedient, is to be made permanent. Moreover, the control will be backed by extraordinary powers of bureaucratic supervision vested in the Treasury. Under an order to be made under the Bill, no company without the Treasury's consent will be able to make any issue of shares exceeding £500, nor will a company be able to capitalise profits or reserves, amalgamate, raise money outside Great Britain, or exchange or substitute new securities for redeemable securities already issued. The £500 limit will not apply if the amount involved in the transaction, together with that of any transaction in the previous twelve months, does not exceed £50,000, but this exemption does not apply to any issue of securities if it includes capitalisation of profits or reserves, and the exemption does not apply to any company incorporated after December 1, 1944. Moreover, the Treasury may by direction withdraw the exemption from any other person.

* * * *

One Effect of Embargo

The embargo on bonus issues will tend to have an unfortunate result on companies which have followed a conservative dividend policy, for they will be forced into the position of paying a seemingly high rate of dividend on a nominal capital which may bear little proportion to the real capital employed in the business. They will thus incur, in the minds of those unacquainted with the true state of affairs, the stigma of making undue profits; the effect, for example, on their workers may be unfortunate, and may give rise to claims for increased wages based on a fallacious assumption of undue prosperity. The object of the new system is to give the Government complete power over the activity, organisation, distribution and growth of industry, and to this end it seems likely that it intends that wartime controls over labour and the allocation of raw materials should become permanent. As the Chancellor of the Exchequer is to be Chairman of the Capital Issues Committee, it seems as though the Treasury in-

tends to assume the prerogative of investment regulation in its widest sense.

* * * *

Overseas Railway Traffics

After earlier increases, receipts of the Buenos Ayres Great Southern Railway have declined in the 27th to the 29th weeks inclusive, although the aggregate for the year to date still shows an improvement of ps. 4,353,000 on 1944-45. Weekly receipts of the Buenos Ayres & Pacific Railway maintained their improvement up to the week ended January 12, but decreased by ps. 16,000 in the week ended January 19. Buenos Ayres Western receipts are continuing to show weekly increases, although on a smaller scale, but Central Argentine improvements are well maintained. Results up to the end of the 29th week of the current year are as below:—

	No. of week	Weekly traffics	Inc. or dec.	Aggregate traffic	Inc. or dec.
Buenos Ayres & Pacific* ...	29	2,252	− 16	62,549	+3,508
Buenos Ayres Great Southern*	29	3,824	−788	94,308	+4,353
Buenos Ayres Western* ...	29	1,193	+ 26	34,325	+1,890
Central Argentine*	29	3,125	+126	88,760	+5,874
		£	£	£	£
Canadian Pacific	3	1,065,400	−27,000	2,998,400	+25,400

* Traffic returns in thousands of pesos

Canadian Pacific receipts for the year ended December 31, 1945, were £552,400 below the 1944 total. In the three weeks of the current year there has been an improvement of £25,400 over the corresponding period of 1944.

* * * *

Private Airlines in South Africa

In developing a comprehensive air transport system within South Africa, the part that can be played by private airline operators has been outlined by the South African Minister of Transport, Mr. F. C. Sturrock. At a recent Municipal Airports Conference in Kimberley (reported in our Overseas columns this week), Mr. Sturrock invited companies wishing to operate feeder services to the South African Airways routes to apply to the Civil Aviation Council for permits. He hoped that some of these services would be provided by private enterprise, and made this offer at the present time so that the Government's own services should have no unfair advantage. This attitude towards private undertakings may be compared to that apparent in a reply to a question in Parliament recently given in this country by Mr. Ivor Thomas, the Secretary to the Ministry of Civil Aviation. Asked whether a private airline would be precluded from operating a freight service, Mr. Thomas replied, "If it were a regular scheduled service, that would be so." The full reply was reported in our December 21 issue. In the course of it Mr. Thomas said it was the Government's intention that the air-transport corporations should provide adequate transport for all air-traffic needs, including special freight services where justified.

* * * *

Release of Railway Personnel

In the House of Commons on January 22 questions were addressed to the Minister of Labour and the Minister of War Transport on the retention of railwaymen in the Forces and the rate at which they were being released. The Minister of Labour declined to give a statement of the number of railwaymen still serving with the Forces, as compared with the number at the beginning of last June, on the ground that the extraction of the figures would involve a disproportionate amount of time and work. He said that railway personnel now had a special priority in the question of release, but that he had given very careful consideration to the shortage of staff on the British railways, and that it had been agreed to release up to 5,000 railway workers of various grades under the class "B" scheme. Members suggested that the information required could be obtained merely by asking the railway companies. That point did not seem to have occurred to Mr. Isaacs, but he agreed that if the railway companies would be good enough to supply it, he would communicate it to the House. The Minister of War Transport said that the number of immediate vacancies in railway workshops and in the operating and permanent way grades notified to the Ministry of Labour as outstanding at the end of June last was 16,300, and that this compared with 14,600 at the end of November. In the intervening five months recruitment had totalled some 40,000. This had enabled wastage to be made good and some additional notified requirements to be met, as well as permitting a reduction from 11,000 to 10,600 in the number of Italian prisoners employed.

* * * *

The Steel Trade Output Levy

Although it has been generally assumed that all the equalisation schemes in the steel industry would come to an end by March 31, it has been decided that the scrap and pig iron equalisation fund is to be retained, so as to avoid higher prices for scrap. This fund is self-supporting, and under the scheme a levy is made of 17s. 6d. per ton of steel ingots produced. From the resulting fund a payment is made of 35s. per ton of pig iron used in steel manufacture. In 1939 the representative cost of heavy melting scrap, delivered at works, was £3 2s. 6d. a ton, compared with a pig-iron delivered price of £4 12s. 6d. The present prices, after deducting the pig-iron remission, are, approximately, £4 2s. 6d. and £6, respectively, per ton. It is believed that, if the equalisation fund were abolished, there would be an increased demand for scrap, and an increase in its price to only just below the pig-iron level. This, in its turn, might result in a further increase in steel prices. At the present time it is considered unlikely that higher prices would bring forward any considerably increased amount of scrap, for the shortage is to be found in lack of labour. Practically all of it at the present time is home-produced, although it is hoped to secure some additional supplies from the Continent shortly.

* * * *

The L.N.E.R. Suburban Problem

Some of the difficulties of suburban train working in present conditions on the Liverpool Street, Kings Cross, and Marylebone lines of the L.N.E.R. were explained to representatives of the press by Mr. V. M. Barrington-Ward, Divisional General Manager (Southern Area), L.N.E.R., on January 28. To the now familiar problems of the age of locomotives and poor quality coal, Mr. Barrington-Ward added several new post-war factors. He said that the crux of the whole matter was manpower, and this was complicated by absence from work for various reasons, including sickness. As an example, he quoted the position at Stratford shed, where there are 625 daily workings, and the average shortage is 90 engine crews a day. The 4,000 men who had returned to the L.N.E.R. from war service were pulling their weight well, but there was a tendency to voluntary absenteeism among labour directed to the railway in wartime. Electrification held out prospects of better travelling conditions, and Mr. Barrington-Ward expressed the hope that the Government would appreciate that transport is as important as housing, and give it the same priority in the matter of materials. The enforced use of over-age locomotives and poor quality coal has been noted in each of the compilations of train schedules published by *The Sunday Express*, the last of which, relating to the G.W.R., we reproduce elsewhere in this issue.

* * * *

L.M.S.R. General Research Department

In our January 4 issue we recorded the appointment of Mr. M. G. Bennett, formerly Lighting & Heating Assistant, Chief Civil Engineer's Department, Watford, to be Manager, General Research Department, Watford. The appointment marks the setting up under Mr. Bennett of a General Research Department on the L.M.S.R. to work on non-technical problems; it is intended that it should be the complement of the Scientific Research Department which has been in action for a number of years and which investigates such problems as job analysis at shunting yards and goods depots, office mechanisation, and design and use of forms and other stationery. The word "research" in its widest sense comprises research into all non-technical activities as well as purely scientific matters. The problems to be tackled include not only the production of the many new tools which have been created by science, but the many matters amenable to investigation by the same process of analysis, clarification of the issues and their assessment as is practised by the scientific

research man engaged on scientific problems. Documentation, costing, the principles of mass production and market research are a few of these.

* * * *

U.S. Pullman Purchase Sanction

The U.S. District Court in Philadelphia has issued a final decree approving the sale of the Pullman sleeping car business to the consortium of upwards of fifty railways, which, as recorded in our January 25 issue, was among the bidders for the undertaking. The Court filed a unanimous opinion approving the sale to the railways on December 18, and later on issued an interim order, authorising the Pullman Company to continue its services until March 31 next, which will allow time for the railway group to complete all financial aspects of the transaction, and for the Pullman Company to sell such of its light-weight equipment as the railways, exercising their options, might wish to purchase. The decree by the Court contains certain conditions of approval, including a prohibition on any joint directorship of the Pullman companies and of any of the purchasing railways, and the stipulation that any new sleeping cars purchased by the Pullman Company, or any of the purchasing railways, shall be bought only after competitive bidding. The litigation concerning the sale of the Pullman assets has extended over many months, and the more recent developments were dealt with at some length in our January 25 issue.

* * * *

Institute of Traffic Administration

The Institute of Traffic Administration was formed in July, 1944, to promote education in the principles of traffic administration and their application. It is intended that the first of the Institute's examinations should be held in May of this year, and an examination handbook has been issued from the headquarters of the Institute at 2, Caxton Street, Westminster, S.W.1. Sir Herbert Matthews, President of the Institute, in a foreword to the handbook, states that, in view of the already considerable demand in the transport field for adult education, the Council felt that prompt publication of the examination syllabus was desirable. This syllabus contains some features novel to organised transport education. The inclusion in the Intermediate stage of the subject "Industrial Psychology," at the Intermediate and Final of "Economic and Social History," and at the Final of "Methods and Machinery of Government," reflects the prominence now being given to human relations within industry, and to the relations of industry as a whole with the consumer as a whole, through the organised instruments of local and national Government.

* * * *

Sir Alexander Butterworth

IT is just over 24 years since Sir Alexander Butterworth, whose death at the age of 91 is recorded on p. 127, retired from the General Managership of the North Eastern Railway. Since then he had occupied himself in good works, notably as Chairman of the Victoria Park Hospital and as a most active member of the Pedestrians Association in its fight for safety on the road. When he succeeded Sir George Gibb as General Manager of the North Eastern Railway it was a case of a lawyer following a lawyer. But Gibb was more a railwayman than a lawyer and Butterworth more a lawyer than a railwayman. During his general managership the N.E.R. was much less "in the picture" than in Gibbs' régime. Gibb, like Lord Stamp, who meteored into the railway world twenty years later, was with many other outstanding qualities, a natural publicist, and even amongst the general public the North Eastern, though not a London company, became renowned. Butterworth, on the other hand, shrank from publicity even to the extent of having his name withdrawn from the right-hand bottom corner of the timetables at the stations and substituting that of the Superintendent. Nevertheless, he was aggrieved at not being appointed Chairman of the Railway Executive Committee in the 1914-18 war.

In his fifteen years general managership it can be fairly said that Butterworth carried on the high traditions of the old North Eastern which had exercised a truly benevolent monopoly within its own area and possessed many characteristics peculiar to itself. His legal training and his experience in the Solicitor's Department of the Great Western Railway and afterwards as Solicitor to the North Eastern Railway gave him a firm grasp of railway affairs, and his urbanity, except on rare occasions, also made him a good conciliator and arbitrator in dealings with employees, in which connection he formed a conciliation conference which remained more acceptable to North Eastern men than the subsequent Board of Trade conciliation scheme adopted by the other companies. His services were much in demand in the inquiries by the Board of Trade into railway rates, which led to the passing of the various Rates & Charges Order Confirmation Acts 1891-1896. He was the author of "Railway Rates and Traffic" and "The Practice of the Railway & Canal Commission" both published in 1889, and of "Maximum Rates and Charges on Railways and Canals," published in 1897.

* * * *

The Railways and Civic Schemes for Re-Development

FOR some time much space has been devoted in the national and provincial press to accounts of the post-war development plans of civic authorities throughout the country. Special prominence is given when one or other of the principal cities like London or Manchester announce their proposals for redevelopment through the publication of comprehensive and usually handsome brochures, and the holding of popular exhibitions. The part which the railways play in assisting the civic authorities to formulate their plans is not well known by the public, and is often unsuspected.

Initial steps in planning re-development were taken by some of the large cities and towns during the war, particularly by those where extensive damage was suffered through enemy action and re-habilitation on a considerable scale became inevitable. The railways, although heavily preoccupied with the paramount task of supplying transport for the prosecution of the war, but realising that an adequate and efficient rail service was an essential ingredient of any sound scheme for re-development, promptly took the initiative at the highest level in approaching the civic planning authorities in question with a view to discussing informally their proposals to discover what assistance could be afforded from a railway angle. The initial discussions were friendly and helpful, and the contacts established have been maintained to mutual advantage. Many similar approaches to other authorities subsequently have been made with equally successful results.

The Ministry of Town and County Planning, to secure the maximum co-ordination of public planning schemes, the production of which was rapidly increasing, decided to divide the country into regions, to each of which a Regional Planning Officer was appointed, with responsibility for achieving the Ministry's object in his particular area. Most of these Officers are now functioning fully. Immediately on their appointment, the railways initiated informal discussions with the Regional Planning Officers to obtain details of their planning proposals and offer co-operation in their development. Here again the discussions were amicable and resulted in the exchange of useful information and the creation of valuable contacts which are proving very effective. There are very few civic schemes where the railways are not affected in some way. Frequently more than one railway is concerned, and in these instances the companies have combined to speak with one voice.

Civic re-development planning naturally has gained greater impetus since the end of the war, and the railways, by virtue of their association with the various planning authorities, are playing a correspondingly greater part in assisting to formulate proposals for the rebuilding of the nation's physical life. Several of the larger cities have in mind the creation of inner and outer ring roads which will necessitate the compulsory acquisition of much valuable property. The overtures which the railways instigated have resulted in full consideration being given to the problem as affecting railway establishments such as large goods and passenger stations and marshalling yards, the retention, and some times the development of which, on their existing sites is essential to the maintenance of efficient transport for the city's needs.

Through the medium of their discussions with the appro-

priate authorities, the railways have been able conveniently to indicate their domestic plans for development in particular areas and, where possible, attempts will be made to fit them in with the general planning schemes. The importance of this knowledge being made available at the right time cannot be over-emphasised, particularly where major schemes are contemplated.

Details of land in railway ownership likely to be surplus to requirements have been given to the appropriate planning authorities in cases where this information has been likely to prove of assistance in developing the latter's schemes. The possibility of an exchange of land has not been overlooked where such an arrangement would be mutually helpful. Attention has also been directed by the railways to the desirability of railway and bus stations being situated in reasonably close proximity.

* * * *

The Cheltenham-Gloucester Joint Line

THE quadrupling of the railway between Cheltenham and Gloucester, described briefly on page 121, recalls the remarkable early history of this important section of the L.M.S. and G.W. railways. When the Cheltenham & Great Western Union Railway was projected, the Bill for the Birmingham & Gloucester Railway was also before Parliament. To avoid duplication of tracks, the two companies reached an agreement for the common use of the line between Cheltenham and Gloucester, which was embodied in the Act of June 21, 1836, authorising the railway from Swindon to Cheltenham. The Birmingham & Gloucester was to reimburse the Cheltenham & Great Western for making the half of the line nearer Gloucester, and was to assume full control of this section, with the other company acting as Trustee. Joint stations were to be provided at Cheltenham and Gloucester, the former at the expense of the Cheltenham & Great Western, and the latter by the Birmingham & Gloucester. The whole of the line from Cheltenham to Gloucester was to be mixed gauge.

In 1938 financial difficulties forced the Cheltenham & Great Western to apply for an extension of time. This concession was granted, but the interests of the Birmingham & Gloucester Railway were safeguarded by a provision that, if the railway was not ready to be opened by June 24, 1840, that company should complete the works. In this event, the Cheltenham & Great Western was empowered subsequently to repurchase the railway, subject to its Trusteeship of the part nearer to Gloucester. It was also agreed that each railway was to have its own station in Cheltenham and Gloucester. The construction of the railway from Cheltenham to Gloucester was begun early in 1839, but, although considerable progress was made, the Birmingham & Gloucester had to exercise its powers, and take over the work on June 18, 1840, six days before the opening of its own line from the north to Cheltenham. The railway was opened to Gloucester on November 4 following.

In 1842, the Bristol & Gloucester Railway, which had been authorised on July 1, 1839, was empowered to construct the 7½ miles of the Cheltenham & Great Western from Gloucester to Standish. This section was opened on July 8, 1844. Shortly afterwards, the Cheltenham & Great Western Union Railway was amalgamated with the Great Western Railway. At the same time, powers were obtained for an extension of 1¼ miles from the northern end of the joint line at Cheltenham to a new terminus at St. James'. The Great Western lost no time in completing the line from Swindon, which was opened to Gloucester on May 12, 1845, and to Cheltenham on October 23, 1847. Meantime, the Birmingham & Gloucester, and the Bristol & Gloucester railways had passed into the hands of the Midland Railway. The section from Tramway Junction, Gloucester, to Lansdown Junction, Cheltenham, was the first important instance of a mixed-gauge line. The layout at the junctions was unusual, and called for special reference in the Report of the Inspecting Officer.

The joint ownership of the railway between Cheltenham and Gloucester still persists, although the Great Western is no longer Trustee of the southern portion. In 1867, this section was conveyed to the Midland Railway, with the Great Western retaining absolute ownership of the remainder of the line. Each company has the free use of the other's half; and each maintains its own half for the common benefit.

William Whitelaw, LL.D.

By Sir Ronald W. Matthews,

Chairman, London & North Eastern Railway Company

TO William Whitelaw, who died on January 19 at the age of 77, at his beautiful home, Hatton House, in Midlothian, the London & North Eastern Railway Company and, if I may be permitted to say it, British railways generally, owe an outstanding debt. No less a debt is owed him in a wider sense by all who were fortunate enough to be associated with him in his private and public life and to draw courage and inspiration from his high example and cheery, straightforward, human, and Christian outlook on life's problems. Work for Whitelaw was never a necessity, but the desire to work, and to work hard, was one of his chief characteristics; and after leaving Cambridge, where he went from Harrow, he entered Parliament in the early nineties as Member for Perth City, and at about the same period accepted a seat on the board of the Highland Railway Company.

Thenceforward his railway work occupied a foremost, indeed an almost all-absorbing, place in his day-to-day life; he was devoted to it, and to it he gave unsparingly of the talents with which Providence had endowed him. To the work of the Church of Scotland, too, he rendered great and abiding services, and if his mind at any particular moment was not engrossed with some problem in relation to the one, it would almost certainly be actively engaged in furthering the interests of the other. And this was literally true.

For years Whitelaw never took a real holiday or relaxed completely from his work, and seldom were his beloved railway companies absent from his waking thoughts. A twenty-year directorship of the Highland—12 years as Chairman—during which period he sought foresightedly to achieve an amalgamation with the Great North of Scotland, brought him to the board of the North British and to its Chairmanship in 1912 in succession to the late Duke of Buccleuch. He led the North British through the first world war, and took an active and formidable part in the successful fight of the Scottish railway companies to be grouped longitudinally with the appropriate English companies under the Railways Amalgamation Bill.

After the passing of the Bill into law fortune attended the London & North Eastern Railway Company when, at its inception in 1922, William Whitelaw was chosen to take the Chair. The choice was none of his seeking. Far otherwise lay his inclinations. Long years of arduous railway work stretched behind him. The heart that was in his work had its resting place in Scottish railways in his native land. Surely this was the moment to "cut the painter"; to enjoy greater leisure, and to live at home. But the finger of fate pointed southwards. Yielding, ultimately, to the persuasion of the directors of the amalgamated company, he chose the rougher path and assumed the exacting burdens of the office which in 1938, to the regret of all in the company, owing to increased pressure of private affairs, he laid down.

To his task during the sixteen years that had elapsed he devoted exceptional energy and skill. His protracted and intimate association with all phases of railway work and life stood him in good stead. No one who worked with or under Whitelaw through those years can have failed to appreciate the great qualities he displayed in welding the multidinous activities, customs, and idiosyncracies of the seven constituent companies into an ordered and unified whole. And by Whitelaw the act of leading and directing was performed, as all his associates will remember, with knowledge and tact, judgment and courage, vision and optimism, and with infinite charm and humour and cheeriness of spirit.

To the play, too, as well as to the work of those who were happily associated with him, in greater or humbler positions, Whitelaw brought unceasing interest and co-operation. No effort was ever too great, no journey ever too tiring or too far, if, by his presence at their recreational functions he could add to their pleasure and enjoyment. A great and noble man has passed on. His work and achievements for British railways will never be forgotten. All who knew him will miss him. For those of us whose privilege and happiness it was to walk colsely with him, his example will be a continuous encouragement to tread with vision the path along which he led us for so many years, and in the hearts of all of us his memory is enshrined.

Journey to Paris

By H. A. V.

AT the moment the only surface civilian service between London and Paris is a daily one *via* Newhaven and Dieppe, running in daylight only, and according to tides, because of still existing war dangers. The time for the throughout journey London-Paris varies, as, at certain states of the tide passengers leave Victoria at night and sleep on the steamer in Newhaven Harbour. The vessels working the service are the *Worthing* and the *Isle of Guernsey;* the latter belongs normally to the Southampton routes.

In this particular case the train left Victoria at 10 p.m. and arrived at Newhaven Harbour just over an hour later. The boat left at 8 a.m., with an arrival at Dieppe at 12 noon (1 p.m. French time). The boat train left Dieppe Maritime at 2.39 p.m., and was due in Paris St. Lazare at 6.11 p.m. Actually, it was about 15 min. late.

Light refreshments were served on the English train, and consisted of tomato sandwiches and coffee. Drinks were also obtainable. A first class Pullman car, for which a supplement of 4s. was payable, was attached to the train.

Luggage is examined at Newhaven. A certain amount of food may be taken out of Great Britain, and this is supposed to be a maxium of ½ lb. a day of stay abroad, with a limit of 15 lb. for one month. Money, also, is controlled at the English port; not more than £5 in sterling notes may be taken out or brought in, in addition to a maximum of 2,000 French francs taken out and 1,000 brought back. Further sums abroad are obtainable by arrangements made with an English bank, and anyone who obtains a passport and visa may draw abroad on a credit up to £100 within one year, without restriction as to its use. In addition, a business man, on production of a certificate stating that his expenses are all for business, may draw on an agreed sum without touching his personal allowance of £100.

Breakfast was served on the steamer. This consisted of puffed wheat in milk, Spam and a real egg, a generous allowance of butter, with bread, marmalade and coffee. The price of this excellent meal was only 3s.

Dieppe Maritime Station is practically intact, as also are the unlovely dwellings on the quayside. The scene of the famous landings earlier in the war could not be distinguished very clearly from the boat, but it is understood that the damage there is great. The church on the cliffs overlooking the harbour is in ruins.

The boat train consists of coaches of all three classes and a restaurant car. Military personnel are segregated so that their equipment, documents, etc., may be more easily dealt with. The train appeared to be well up to 1939 standard, but it is understood that the stock has been specially chosen for the service, and that other rolling stock of like quality is not easy to find.

The first stop is at the Ville Station, where damage is more apparent. The Marché aux Boissons, on the other side of the harbour, opposite the Maritime Station, is being reconstructed in reinforced concrete.

One's first impression of Dieppe Ville Station is the heterogeneous collection of rolling stock. There were in the yard German passenger vehicles, a train marked "British Army Postal Train" consisting of bogie vans recognizable as G.W.R. "syphons," a grey-painted L.N.E.R. ambulance train with the Red Cross now obliterated, a number of German and French coaches overpainted "W.D.," a miscellaneous lot of goods vehicles, German, Italian, Dutch, French. There were also some tank wagons marked in English and in French "French Supply." All the French goods rolling stock was old, and all the modern rolling stock last seen in 1939 seems now to have disappeared.

The boat train stopped at three or four places *en route*, and as it got nearer to Paris progress was painfully slow over the patched up bridges. In Normandy, away from the stations and villages, things looked almost normal.

The restaurant car lunch consisted of a vegetable soup of prewar quality, then some hake, very small and not very appetizing, with half a potato, cut into two. This was followed by a deliciously cooked plate of beans, and then came dessert, consisting of one apple. A reasonably good piece of bread was provided, and a small cup of tolerable coffee. No milk or sugar were available, but the *maître d'hôtel* brought along saccharin. The only wine was priced at 59 francs the half-bottle. The price of the meal without the wine came to just over 100 francs, and this included a 20 per cent. *taxe de transaction*, and the usual service charges. At the time of this journey the official rate of exchange was 200 francs to the £, so that to an Englishman coming from England the price would be about 16s.

No trains on the running line were passed until arrival at Argenteuil, where a suburban train was seen. The stock used on this service consisted, as in 1939, of bogie open saloon coaches, with centre doors and steps almost to ground level. This train was full to overflowing, and had patched windows in the same manner as London suburban trains.

Paris St. Lazare Station is unchanged structurally, and the lighting is fairly good, comparing favourably with that of 1939.

The suburban electric services to Asnières, Versailles, St. Germain, and so on, seem to be working normally, but the familiar trains were dirty, and the third class had a proportion of seats removed to allow for standing.

Within the Paris City boundaries the Métropolitain is practically the only means of transport. The flat fare is 3 fr. 50 c. first class and 2 fr. second class, as against 1 fr. 90 c. and 1 fr. 30 c. respectively in 1939 and 1 fr. and 60 c. in 1928. The rolling stock and stations show signs of war weariness, but the service is quite good. Closed stations are shown on the route plans inside the carriages in faint lettering. The cars bear notices in English to the effect that Allied troops must now pay fares, presumably because of termination of Lend-Lease arrangements. Non-smoking notices are also displayed in English.

The British Railways' Joint Office at 12, Boulevard de la Madeleine, was used by various German official services for a time, and also by the *Pariser Zeitung* which, before the occupation, was a German language newspaper in Paris, anti-Nazi in those days.

The enemy took away scale models of the L.M.S.R. "Coronation Scot" and the L.N.E.R. "Coronation" trains, a Southern Railway model of a "Lord Nelson" class locomotive, but left behind a model of a "Schools" class engine (S.R.) and two models of steamers. No doubt guide books and other documents were thoroughly combed. A certain number of German propaganda photographs, such as those of Nazi demonstrations at the Etoile, and German music hall artists, were also left behind.

At present the office is "Rainbow Corner," managed by the American Red Cross as a welfare and information bureau. The railway office is temporarily housed in the Salle des Pas Perdus of the Gare St. Lazare.

The journey back from Paris to London was somewhat shorter than the forward journey; Paris St. Lazare was left at 6.55 a.m. Breakfast consisted of one small roll of fairly good flour, one piece of putty-coloured bread, no butter, a small pot of apricot jam, one apple, and for drink what was described as "Mixture W.L. in place of coffee." The waiter poured two liquids, one jet black and one brown, into a large cup, and his assistant followed up with saccharin. This mixture was very far from agreeable.

On arrival at Dieppe the money formalities and examination of passports were quickly got through. The train had arrived just before 11 a.m. (French time) and the boat departure was at 1 p.m. (12 noon English time).

An excellent lunch, price 5s., was served on the steamer, and consisted of a good portion of roast beef, potatoes and vegetables, sweet and coffee. This compared all the more favourably with the Wagons-Lits *petit déjeuner* already described.

At Newhaven the customs and passport formalities were more or less as in 1939. The striking difference in the crowd is that the number of non-British people is about equal to the number of British. On landing, passengers are handed a card warning them that they may have unwittingly exposed themselves to contagious diseases while out of Great Britain, and giving them directions what to do in certain circumstances within the following 21 days.

The boat arrived at Newhaven at 4 p.m., and the connecting train left at 5.28 p.m. Tea was available on the train, and Victoria was reached at 6.45 p.m.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Locomotive Design

3, Kensington Palace Gardens,
London, W.8. January 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It is somewhat strange that you should devote so much space to correspondence about the merits or demerits of a non-existent locomotive, and it is equally strange that the Central Uruguay company should wish its C.M.E. to design its locomotives.

Surely it is to the interests of the shareholders of a comparatively small company that the duties of the locomotive engineer should be confined to keeping existing engines in good and efficient order and in advising his General Manager as to meeting future requirements.

In the interest of economy, design and manufacture should be completely entrusted to the locomotive industry. Entire responsibility would then rest upon the builders, who would be judged by results.

Yours faithfully,
P. M. BROOKE-HITCHING,
Lt.-Colonel

Modern Railway Coach Design

Cambridge. January 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The description of the L.M.S.R. composite brake-vehicle in your issue of January 11 tempts me to raise the question of standardising ordinary coaching stock. The brake vehicle, like the L.M.S.R. passenger coach which you illustrated last year, is a great improvement on most of the rolling stock seen in Cambridge of late. The tare weight has been kept down to 30 tons, but the passengers will be carried in comfort.

As these coaches can be built quickly by mass production methods, would it not be an economical proposition for all the railways to adopt this design for coaches with separate compartments worked by steam locomotives on long-distance services? The best use would then be made of existing coach-building facilities and maintenance would be simplified. To an outside critic the pre-war expenditure on rolling stock seemed to be unduly high.

Yours faithfully,
EAST ANGLIAN

The "Paget" Locomotive

Fraser & Chalmers (S.A.), Ltd.,
Cullinan Building,
Johannesburg. January 12

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I read with great interest the article on "Paget's engine" as we used to call it, together with the notes and editorial appearing in your issue of November 2. I was an apprentice at Derby at that time and was called into the office of the erecting shop foreman, provided with a drawing board and given the task of preparing drawings of the alterations that were made during part of the tests that were carried out with this engine. I forget now where I came in. It was probably towards the end of the experiments when the drawing office had given it up.

The solid rotary valves were first replaced by valves split into two halves: the joint opposite the port was sealed with a flexible thin bronze plate. Afterwards spring loaded segments were fitted into grooves each side of the port opening; the ends were closed by circular piston rings. A means of boxing in the cylinder fronts with the exception of the slots for the connecting rods was devised, and also a system of automatic valves for providing an auxiliary exhaust during the inward stroke, but these last two were not applied.

I think the gravest defect of this engine, and the immediate cause of its failure, was the uniflow system without auxiliary exhaust. It meant that when the pistons had passed the ports on the return stroke, there was no release of pressure except through the cylinder cocks, and as the rotary valves always leaked badly, the back pressure at starting was nearly as great as the forward pressure. There was, therefore, at most crank positions very little starting effort.

The attitude of the locomotive drawing office of that day has come in for some criticism, but I think it must be admitted that it made an excellent job of a very difficult and unusual designing problem. Perhaps it can be pardoned for not showing much enthusiasm about a principle that shows many disadvantages and could not have been successful without very drastic modifications. Even had the rotary valves been replaced by steam-tight valves of another type, the large cooling surface of the eight open-end cylinders is a severe disadvantage with saturated steam. The design captures the imagination with its boldness and departure from convention, but has it any real merit?

The uniflow principle since has been applied to locomotives by Stumpf in Germany without apparent success. Are trunk pistons really a practical proposition for a horizontal steam engine? Could a modern locomotive with cylinders say 21 in. diameter by 18 in. stroke be designed on similar lines?

Still, as you say, it was a heroic experiment.

Yours faithfully,
R. H. BLACK

Subsidiary Signals

Kingston-on-Thames,
Surrey. January 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—When reading the discussion on a technical paper, usually one feels at a great disadvantage if one has neither heard nor read the paper, nor read even a précis of it. As I read the discussion on the above subject in your issue of December 21, 1945, this feeling of "being a bit out of the picture" gradually disappeared. The only uncertainty in my mind was the exact meaning of "subsidiary signals." I take it that they are those which govern movements which are confined entirely to the limits of a station or yard. In the following remarks, for the sake of simplicity, reference is made to the four-aspect colour-light system only. The equivalent indications of other systems can be substituted readily.

I consider that the most important contribution to the discussion was made by Lt.-Colonel E. Woodhouse, particularly by his question, "What did the driver want to know?" He gave his own version of what the answer should be, but I think that he would have qualified this by "as far as can be done without undue complication and multiplicity of signals." I wonder if his views on this last item are the same as in the past. Rather more than forty years ago, in reference to a railway which was somewhat lavish in the use of signals, he said: "They almost have a signal to tell the driver when to blow his nose."

Movements covered by subsidiary signals always are, or should be:—

(*a*) over comparatively short lengths of line;
(*b*) made at low speeds; and
(*c*) made with great caution because unforeseen incidents are more likely to occur here than on open line.

Under these conditions is there any necessity to use "green" for "move" or "continue to move"? Would not "orange" be quite sufficient for the purpose, especially considering the meaning which could be attached to the use of one "orange" or two "orange"? If this were applied to all dead-end platform lines at terminal and other stations, it would be possible to restrict the use of "green" to open road running lines. It is considered that this would be a distinct advantage from a safety point of view. In view of the high speeds now regarded as normal, this restricted use of "green" is worthy of consideration and further discussion.

Yours faithfully,
W. G. TYRRELL

Switch-Panel Interlocking

Rickmansworth,
Herts. January 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The report published in your issue of January 18 of the "Questions and Answers" meeting of the Institution of Railway Signal Engineers is liable to give a wrong impression to readers, if it were not for your editorial comment. May I be allowed, therefore, as a member of the I.R.S.E. who was present at that meeting, to refute the idea that signal engineers in this country are generally in favour of the adoption of power frame installations and that the power frame is the most suitable type of equipment for a main-line station interlocking?

It is unfortunate that, in the necessarily abridged version of the discussion which you published, emphasis has, no doubt unintentionally, been laid on the power frame by leaving out some of the remarks that were made in strong support of the switch-panel type of relay interlocking.

In the interests of the signal engineering profession as a whole, and the engineering reputation of this country—which was one of the earliest to adopt switch-panel systems—I would point out that at least one main-line railway has made a logical interpretation of all-electric signalling and, in the name of progress and economy, has installed a number of the switch-panel

type frames, both with route relay interlocking and non-routing systems; this in spite of the desire for standardisation which, however, has not been allowed to stand in the way of development.

The advantages of a switch-panel installation are too well known and too numerous to need setting out here in full, but it may be as well to mention that among the main factors are: increased control area owing to compactness of panel; quickness, simplicity and ease of manipulation; flexibility from an engineering point of view; and easy accessibility for maintenance purposes. Most operating officers, and certainly the signalmen themselves, are in favour of the system, once they have experienced it. The financial aspect, which was specifically excluded from the question, but which cannot, of course, be ignored in practice, also shows up very favourably compared with other systems, since the number of signal boxes that can be dispensed with by one switch-panel relay interlocking is greater than with other systems, and the annual savings which accrue more than compensate for any improbable increase in first costs.

Yours faithfully,
SEARCHLIGHT

Locomotive Lighting

189 Railway Operating Coy., R.E.,
C.M.F., December 23

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I have in the last three years worked on the railways in North Africa and Italy, and I have found that although the locomotives of these two countries are rather out of date, the main-line locomotives are fitted with electric lights for the cab and also the headlights.

It seems a pity that the English railways, with all their recent developments for easier working and comfort for the crews, have not exploited this lighting system, thus doing away with the old system of oil lighting. The headlights could be fitted with leads so that they could still be used for code working and fitting into one circuit box on the front of the engine.

Yours faithfully,
C. FAHEY

A Railway Map in 18 Colours

Hurst Wickham,
Sussex. December 27

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In my possession is a railway map, which in some respects is of greater interest than that of the G.W.R. described on page 586 of your December 7 issue.

It is a private map, presumably prepared for the use of the directors and chief officers of the Metropolitan Railway. The particular use of it is to show the junctions with other railways, which requires no less than 18 colours, or combination of two colours. The distances between stations, and between Metropolitan stations and the nearest junction of another railway to the relative junctions are given. All distances are in chains.

Checking these distances on the map, the scale is about 2 in. to a mile; where the measured distance is short by the figures, the scale in such cases may be 2¼ in. or 2½ in. to a mile, but the distances given by the figures do not appear to be based on a general scale.

Distances between stations on the District and other lines over which the Metropolitan trains worked, and/or the company owned, for example, Hammersmith & City, East London, West London & West London extension, are given between stations.

Portions of railways in competition with the Metropolitan line, such as L.N.W.R. and North London, with the names of stations on such sections, are shown on the map. The most distant places on the map are—Preston junction (Harrow line, Met.), N.W.; New Cross Stations, S.E.; Bethnal Green and Shadwell (G.E.R.), E.; West London Junction (G.W.R.), W.; West Brompton (W.L.E.), and West Kensington (District).

The mapped surface of the sheet is West to East 22 in. and North to South 16 in.

Yours faithfully,
G. A. SEKON

Inner and Outer Circles

London, S.W.1, January 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The illustrations which you have recently published showing the Metropolitan and Metropolitan-District Railways under construction are extremely interesting.

It is noticed, however, that you refer to the "Inner Circle Railway." Should this not be described as the "Circle"? In the days of steam working the words "Inner" and "Outer" referred to the direction of movement, *i.e.*, trains running clockwise were "Outer" and anti-clockwise "Inner." Tickets from Paddington to Victoria were marked with a large "I" and from Victoria to Paddington with an "O." Furthermore, bridges and staircases giving access to platforms at Circle stations were correspondingly marked "I" and "O."

The Circle service may well be described as the "Cinderella of the Underground." The convenience of the public travelling thereon is completely disregarded.

Yours faithfully,
METROPOLITAN

"N or M"

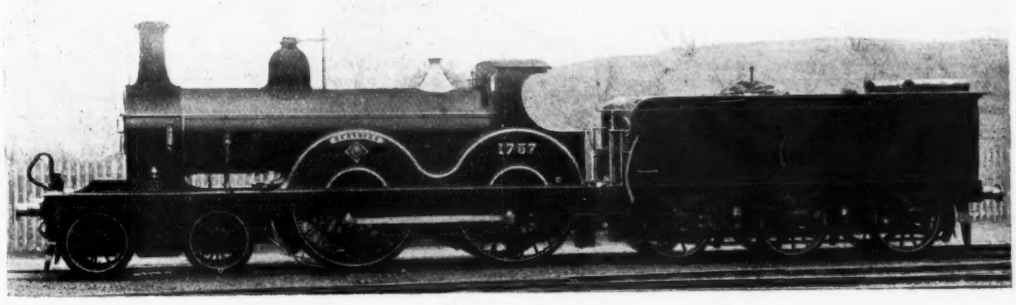
The Railway Club, 57, Fetter Lane,
London, E.C.4. December 5

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the letter from Mr. F. Plant, and your editorial note, in your issue of October 5, I recently discovered a photograph of Midland Railway engine No. 1757, *Beatrice*, which may prove of interest to your readers. So far as I can judge, the photograph was taken soon after the engine was named in 1887. The particularly neat style of nameplate adopted is in keeping with the appearance of the locomotive.

Yours faithfully,
H. A. VALLANCE,
Hon. Secretary

Enlarged view of the nameplate



Broadside view of Midland Railway locomotive No. 1757, referred to in the above letter

The Scrap Heap

PURPLE PASSAGE THROUGH THE PENNINES

"But suddenly is descried ahead a dark spot at the base of the great natural wall, such a speck as one would fancy a molehill would make upon the face of a mountain. It is the mouth of the famous Woodhead Tunnel that here pierces the Pennine Chain. . . . The driver tugs a little lever, and with an eldritch shriek from the engine we are engulfed in pitchy darkness. From the half open furnace door issues a broad shaft of fierce light that illumines with a ruddy glow the bent and grimy figure of the stoker toiling with pick and shovel, like some mountain gnome feeding the subterranean fires. In sooth, we have travelled by train through railway tunnels before now, but never before been able to realise, from the interior of a well-appointed car, the sensation of being underground. But here—God help us !—here we are in very truth in the bowels of the earth, and on the unprotected back of the engine, with the unseen walls hemming us in, we might be rushing straight to some infernal City of Dis."—*From a Great Central Railway official album published in* 1902.

* * *

100 YEARS AGO

From BRADSHAW'S RAILWAY GAZETTE, *January* 31, 1846

GREAT WESTERN RAILWAY. The Directors of this company are ready to receive Tenders for LOANS of MONEY, in sums of not less than 1000*l*., for a period of five or seven years, on the security of mortgage debentures, bearing interest at the rate of four per cent. per annum, payable half-yearly.

Application may be made to the undersigned, at the Railway Office, Paddington Station.

CHAS. A. SAUNDERS, Secretary.

RAILWAY RECOLLECTIONS

Mr. Leonard Sears, who recently retired from the post of Assistant Divisional Superintendent, London (Central) Division, Southern Railway, sends us the following comments on the changes in practice he has observed since the mid-eighties of the last century:—

In the mid-eighties the ballast in the permanent way consisted of light shingle; now, on account of heavier engines, coaches and increased speed, it consists of heavier material. The rails were about 40 ft. in length; now they are double that length and heavier.

Many of the engines in those days had high funnels, large brass domes, and outside coupling rods. Now the funnels have almost disappeared; so have the brass domes.

The majority of the coaches were four-wheeled and lit by oil lamps in the roof, the oil dripping from the lamp into a glass bowl in the roof of the compartment; these drippings used to swing backward and forward with the movement of the train. Then came gas lighting, which was followed by electric lighting—now frequently there is no lighting at all, as passengers take a fancy to the bulbs, presumably as mementoes of their journey.

Signals.—The arms of these were always lowered until someone thought they should point to the sky and not to the earth to avoid their hanging in the "off" position when they should be at danger. In many instances the arms have disappeared entirely, only the lights being used; the train has become its own signalman.

I believe the Metropolitan & District, as it was then known, was the first line in the country to adopt electric colour-light signalling, and I well remember about 1913 when at a meeting I suggested we, the S.E. & C.R., should adopt that system of signalling to assist in augmenting the service into the London stations. I was told that form of signalling was only suitable for the Underground, which was really a tram line. As this reply came from a gentleman in high position, I had nothing more to say. Well, where is the system now? Signalling trains on the main lines.

In 1891 the South Eastern Railway purchased in America a train of cars. The cars were brought to this country in sections and put together at Ashford Works. Each car had a platform at each end, and one had to pass over these platforms to get from one car to the other. There was a gangway between the platforms and railings to prevent people falling on to the permanent way. The train was lighted throughout by electric light and had a buffet car at one end. It was well fitted, but there was not sufficient room for luggage in the guards' compartments, so separate vans had to be attached. I went with this train on its trial trips and I remember the general public was most interested in it, as it was certainly something new to this country. The train was put into the London and Hastings service, but eventually went to the shops to have the end platforms removed, and reappeared as a close-coupled saloon train to continue its London and Hastings service. It was withdrawn during the 1914-18 war and then, I think I am correct in saying, was disposed of to the Pullman Company.

RAILWAY QUESTIONS AND ANSWERS

Statement: Although wages might not be higher under State control, the status of the workers would certainly be improved.

Answer: The statement is made but no evidence is given in support of it. Under present management, the railway worker is a free and independent agent with a status as high as, if not higher than, the worker in any other major industry. His status is clearly as good as that of any Government worker. The mere fact of putting a crown instead of the "G.W.R.," "L.M.S.R.," L.N.E.R." or "S.R." on a railwayman's uniform won't improve his status or his efficiency. If the question implies that as a State employee the railwayman would automatically qualify for a pension on retirement, it loses sight of the fact that there are many thousands of State employees for whom no State pension is provided.—*From "Answers to Questions and Statements," issued by the British Main-Line Railway Companies, 22, Palace Chambers, London, S.W.1.*

* * *

G.W.R. WAGON LOADINGS

During 1945 the aggregate number of wagons loaded by the G.W.R., including livestock and coal traffic, was 6,559,939.

* * *

64 YEARS A SEASON TICKET HOLDER

Believed to have held a G.W.R. season ticket longer than any other passenger, Mr. W. Bowen Hamer, of Rhayader, Radnorshire, has been travelling daily from his home town to Builth Wells and back for nearly 64 years. Since April, 1882, he has been catching the 10.54 a.m. train from Rhayader and returning from Builth Wells by the 6.21 p.m. train. Mr. Hamer, who is in his 80th year, is a member of the legal profession and the author of "Radnorshire in History, Topography and Romance." He recalls the opening of Elan Valley water supply on July 21, 1904, when he was presented to King Edward VII.

* * *

OPERATING ODES

Train Crew Relief Organisation

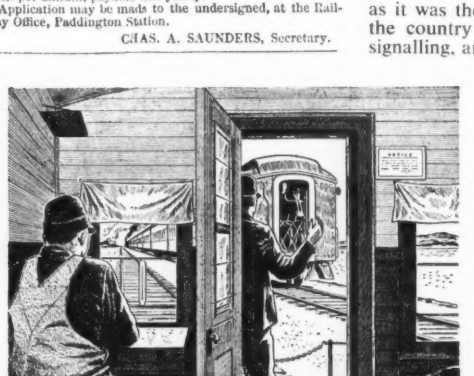
Way back in nineteen-forty,
Those early months of war,
The powers-that-be decided
To send somewhere, to store,
From out the York Museum
Until more peaceful days,
Those relics of the railways'
Less hectic early phase.

With care the superintendent
Assembled all the stock
And got it marshalled ready
To put it on the block.
The *Rocket* was the engine
With all the weight she'd take
Of antiquated coaches
Together with a brake.

The fireman got up early
To raise sufficient steam
And all the staff was anxious
To help the job, 'twould seem.
At last a path was chosen
(Control was on its toes)
The driver shrilled his whistle,
They cheered her, "Off she goes."

But from the ancient brake van
A wizened man appeared
With hair down to his shoulders
And quite three feet of beard.
From somewhere through his whiskers
Came plaintive cry of grief
"Been on since eighteen-ninety,
STILL ain't there no relief?"

H. W. W.



Have you ever noticed that whenever two trains pass, freight or passenger, a trainman will signal, with hand or lantern, to the trainman at the rear of the other train?

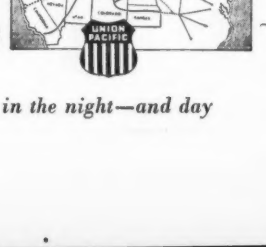
This is not merely a friendly gesture. Each man makes a careful visual inspection of the other's train while it passes. Then he signals that all is well or that he has spotted some defect.

This is just one phase of a continuous "check and double check" system. All Union Pacific trains are thoroughly inspected before leaving terminal points . . . all station agents check each train as it passes. Even track crews, along the right of way, are alert to spot any sign of trouble

Thus, Union Pacific trains are checked time and time again as they transport passengers and freight over the Strategic Middle Route, uniting the East with the mid-West and the Pacific coast.

THE PROGRESSIVE
UNION PACIFIC
RAILROAD

Geary at Powell St. (City Ticket Office), Phone Garfield 6030
291 Geary St. (Traffic Office), Phone Garfield 6030
San Francisco, Calif



Trains that pass in the night—and day

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

"Dagga" Traffic

Dagga drug smugglers, who use the trains to distribute their supplies, are setting the railway police a special type of problem, which is being tackled vigorously and with considerable success. Recently more than 400 lb. of dagga were seized and confiscated by the railway police at Volksrust and 15 natives were arrested. Many other arrests have been made and a vigilant eye is now being kept on certain regular native travellers, who seem to specialise in this traffic.

Financial Position

The South African Railways in September, 1945, showed a working loss of £279,285, as against a surplus of £38,804 in September, 1944. Revenue from railways, steamships, harbours, road-motor services, and airways improved by £663,230 over the corresponding month of last year, but expenditure advanced by £981,319 as the result of increased maintenance, traffic, and operating costs and higher living allowance payments. Goods and passenger traffic, as well as road-motor services, contributed to the increase in revenue. The accumulated deficit for six months April to September, 1945, was £1,421,825, which was £814,537 more than the deficit incurred during the corresponding period of last year.

South African Airways

The number of passenger flights over the local services operated by South African Airways for the month of October, 1945, was the highest on record; the total of 4,996 was 332 in excess of the previous peak total recorded in September. The increase was spread over all the services, although the most popular continued to be those between the Rand and Durban and between the Rand and Bulawayo, where the number of passengers averaged more than 11 per aircraft.

Feeder Air Services

Companies wishing to operate feeder air services in South Africa were invited recently by the Minister of Transport, Mr. F. C. Sturrock, to apply before the end of March to the South African Civil Aviation Council for permits. Mr. Sturrock, who was addressing the Municipal Airports Conference in Kimberley, said the South African Airways was prepared to operate feeder services, but he was making this offer so that the Government's own services should have no unfair advantage. He hoped that private enterprise would provide some of these services.

Air carriers would be required to provide adequate financial backing; pay appropriate wages to flying personnel and artisans; make provision for insurance of air crews, passengers and goods; make provision for equipment and its replacement; employ only Union nationals, except where it was necessary to engage experts not available in the country; and, lastly, state what type of aircraft they proposed to use.

If it were found possible to accept any such applications the Government would grant a licence for a reasonable period, say five years, subject thereafter to 12 months' notice to terminate on either side. South African Airways would be placed in exactly the same position as private operators from the point of view of applications for licences and the same conditions relating to suitability of aircraft and regularity of services would apply to all operators.

Proposed New Railway to O.F.S. Goldfields

A railway line to connect the Orange Free State goldfields with existing trunk lines is likely to be built in the near future, according to information given to a deputation by the Minister of Transport recently. The Minister said that he hoped a decision would be reached within the next few months as to the route of the proposed line. In the meantime he was awaiting detailed information about the layout of the new goldfields. Three major factors would have to be taken into account in planning the new route: the exact localities to be served; synchronisation of the new service with existing services; and the best means of linking up the new goldfields with the nearest port—Durban—and with Transvaal coal and manufacturing centres. A number of conferences would be held in the near future to gather this information, and all interested bodies would be consulted before the matter was brought before Parliament.

CANADA

C.P.R. Freight Position

The large quantity of material needed for rehabilitation in Europe and for reconversion in Canada is reflected in an announcement by the Canadian Pacific Railway that traffic continues at a peak level, requiring the maximum use of railway wagons. The expected easing after the war, of the C.P.R. wagon-supply position has not materialised, and consignors are being urged to prevent any delay in loading and unloading. This position obtains in spite of the fact that C.P.R. in the past six years has added approximately 8,400 units, including aluminium-sheathed box wagons, to its freight equipment. Over the same period, 219 locomotives have been added.

Freight Movement

An all-time record for the monthly movement of railway revenue freight traffic in Canada is recorded for October, 1945, by the Dominion Bureau of Statistics. The tonnage moved, according to the preliminary figures, was 9,886,000, an increase of 10.8 per cent. over the September, 1945, figures, of 3.5 per cent. over the previous all-time record in June, 1945, and 3.4 per cent. above the 9,561,000 tons handled in October, 1944. Wagon loadings for October last also were at an all-time peak of 341,000, or 13.7 per cent. above September, 8.6 per cent. above the previous 1945 record in August, and 3.3 per cent. above October, 1944. Dividing the estimated tonnage involved in October by the number of wagons loaded, the average loading a wagon works out at 29 tons, against 27.7 tons for September, 30.7 tons for August, the 1945 peak, and 29.3 tons in October, 1944.

For the ten months ended September last, freight movement amounted to 88,355,000 tons, compared with 88,833,000 tons moved in the first ten months of 1944.

The tonnage index for the month of October last (based on an average of 1935-39 equalling 100) was 144.5, against 147.4 in September, and 139.7 in October, 1944. The index of wagons loaded in October, 1945, was 129.1 compared with 119.4 in September, and 125.4 in October, 1944.

INDIA

Bombay-Lahore Through Service

The "Delhi Express," which previously ran between Bombay Central (B.B.C.I.R.) and Delhi, is being extended to Lahore *via* Bhatinda. This extension started with the train which left Bombay on December 30 in the up direction. The first out of Lahore ran on January 1. The train is known as the "Lahore Express."

Bombay-Sind Direct Railway Link

The Railway Board has sanctioned engineering and traffic surveys for a Bombay-Sind direct railway link to the extent of Rs. 1 lakh, to be carried out under the agency of the N.W.R. Administration. The line is to be of broad gauge from Viramgam to Badin (N.W.R. branch from Hyderabad, Sind) via Nagar Parker, 268 miles.

Proposed Constructions on N.W.R.

A survey (known as the Rupar-Talaur Survey) is in progress for a broad-gauge line from Rupar towards the site of the proposed 550-ft. high dam to be built across the River Sutlej, about 50 miles from Simla.

Other proposals are for a broad-gauge line from Peshawar to Bannu *via* Kohat, including the conversion of the 2 ft. 6 in. gauge line from Mari Indus to Bannu (the last-mentioned crosses the Indus by the Kalabagh Bridge, initially designed to carry broad-gauge main-line loading, that is, 22½ ton axles); and a line from Karachi to Quetta *via* Kalat, 440 miles (this would traverse difficult mountain country west of the hills which border the Indus valley on the west).

BURMA

Rangoon-Palook Railway Restoration

Major-General W. G. Symes (Acting G.O.C., Burma Command) drove a train into Toungoo to commemorate the completion of the railway from Rangoon to Palook, south of Mandalay, on December 22. The train consisted of empty ambulance coaches proceeding to Meiktila to bring patients to Rangoon.

In restoring this railway, Indian Engineers of No. 3 Railway Construction & Maintenance Unit played a prominent part in the construction of over 100 bridges.

FRANCE

Simplon Orient Express

Travel between France and Switzerland will soon be rendered more comfortable. Arrangements are being made to avoid the present change of trains at Dijon and Pontarlier on the Swiss frontier. Since January 8 also the "Simplon Orient Express" has again been run. This comprises direct sleeping cars from Paris to Venice, Milan and Rome. About the same time a direct connection between Paris and Prague will be available by the inclusion of a sleeping car in the "Vorarlberg Orient Express" between Paris and Linz. Two new trains will connect Belgium and Switzerland, one comprising a direct sleeping car between Brussels and Basle.

In March the day train and boat service, Paris-Calais-London, with Pullman cars, will be resumed. A sleeping car service,

Calais to Basle *via* Lille and Thionville, will start running about the same time. In May there are prospects of resuming the direct sleeping car service between Paris and London by ferry boat. In May, too, the train "Etoile du Nord" comprising Pullman cars will give a direct connection between Paris and Amsterdam.

Running of another great international service, the "Orient Express" is still under discussion. The Swiss are keen on the resumption of traffic and it is thought that a tri-weekly service may begin shortly. The "Orient Express" would run through Switzerland to Milan, where cars would branch off to Rome and the rest of the train proceed to Venice, which would be the terminus. At Milan there would be connections with Brussels and Calais.

Gas-Turbine Locomotive Trials

The French National Railways Company (S.N.C.F.) is now making trial runs with a gas-turbine locomotive between Paris and Chalons-sur-Marne. The locomotive develops 2,200 h.p. and is designed to haul trains of 600 tons at a maximum speed of 62 m.p.h. It was built by the Swiss Brown Boveri Company and has already run 37,000 miles in regular service on the Swiss Federal Railways. The Swiss authorities have loaned it to the S.N.C.F. for the trials on French lines.

The gas-turbine engine offers the advantages of an electric locomotive without requiring a costly installation for transmission of power—no overhead wires and no conductor rail. It can be operated with any heavy fuel-oil. The combustion of the heated and compressed mixture of air and oil yields gases at high pressures and temperatures to drive the turbine, which actuates an electric generator feeding four traction motors. This type of gas turbine is the work of the Swiss inventor M. Adolph Meyer, who constructed the first model in 1930 and worked on it for ten years to construct the gas-turbine locomotive; one of his main difficulties was to find metals and alloys capable of withstanding the high temperatures.

TURKEY

Railway Construction Plan Modified

The current plan of the Turkish Government for the development of its railways calls for the construction of some 6,000 km. (3,725 miles) of railway to be built within 20 years, at the rate of 300 km. (185 miles) a year, and at an estimated annual expenditure of £T70,000,000 (based on the assumption that post-war prices will be twice the pre-war level).

While this plan has not yet been approved in full, a modified plan has been adopted and laws have been passed specifying the amounts to be spent and the railways to be built. The length of the lines for which laws have been passed and surveys completed totals 702 km. (435 miles), of which 155 km. (96 miles) have been completed already except for laying the rails. The remainder is expected to be finished within 5 years. The sum of £T18,000,000 has been allotted for the continuation of the approved modified programme.

The Line to Persia

Among the projects included in the modified plan is the railway from Mamuret el Aziz to Qutur (Persia) *via* Karpahur, Mush, Tadvan, and Van. The length of this line will be approximately 450 km. (280 miles), and the cost is estimated at £T64,000,000. Some 84 miles are under construction and are expected to be completed in 1947, except for laying the sleepers and rails. A ferry will carry trains across Lake Van, at any rate for the time being, instead of the intended line round the south of the lake.

Gauge Conversion

The narrow-gauge line from Erzerum to Sarikamish, 157 km. (98 miles) in length, still causes a bottleneck in the line of railway communication from Istanbul through Ankara, Kaisarie, Sivas, Erzerum, and Kars to the Russian frontier. Work on the establishment of a standard-gauge line, largely on new alignment, is being intensified, but three or four years may be required to complete it, as the route includes several tunnels. The cost of the entire project is estimated at £T37,000,000. Contracts have been let for the electrification of the railway from Erzerum, through Sarikamish, to Kars. Presumably this will include converting the Sarikamish-Kars portion (at present of 5-ft. gauge) to 4 ft. 8½ in.

Other New Construction

Construction is now in hand of the line 70 km. (44 miles) in length from Narli (on the main line south-west from Malatia to Fevzipasa) to Gaziantep, which will link an important city in southern Turkey with the main railway system. Details and a sketch map were included in *The Railway Gazette* of August 18, 1944 (page 171). This line is intended to be part of a new cut-off to the Baghdad Railway entirely on Turkish soil.

A line is to be built from Kopru Agzi to Maras, 25 km. (16 miles), which will be the beginning of the Maras-Kaisarie railway intended to be built in the future. The cost of these two short lines is estimated at £T20,000,000.

Existing Route Mileage

The totai route mileage operated by the Turkish Railway Administration is now given as 4,484 miles, of which all except 250 miles is of standard 4 ft. 8½ in. gauge, and all except 87 miles of suburban line is single track. All railways being constructed and to be constructed under the plan will be of the standard gauge of 4 ft. 8½ in. The amount of track constructed between 1940 and 1945 was only 272 km. (169 miles). There is no electrified track in Turkey at present, but the Administration proposes to electrify the Erzerum-Kars line (as already mentioned), and the Ankara-Zongouldak line under the long-range plan.

RUSSIA

Soviet Railway Restoration

At the height of the German invasion of Russia, 40 per cent. of the Soviet railway network fell under enemy occupation, according to the Soviet press. The Soviet railway troops, reinforced by railway specialists from the Commissariat, however, succeeded in evacuating nearly all of the rolling stock toward the rear, where it continued to operate on the reduced network.

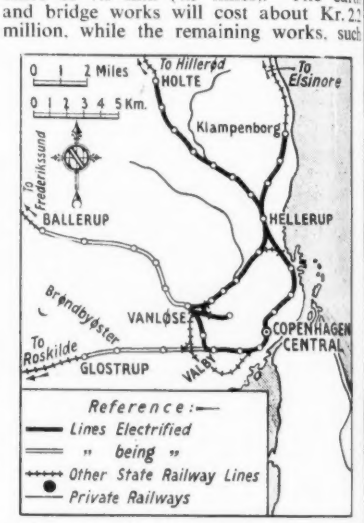
By August, 1945, a substantial part of the damage to the railway lines was reported to have been repaired. The figures cited for damages are as follow, with restoration data in parentheses: First-track lines destroyed, 52,400 km.—say 32,560 miles—(81,500 km. restored, including 30,000 km. outside the pre-war U.S.S.R.); secondary lines, 17,513 km. (6,680); and marshalling lines, no data as to destruction, but 24,500 km. restored. There are no data as to the number of small bridges destroyed, but 13,000 have been restored: large and medium bridges, 2,323 (1,925); depots, 317 (192); railway stations, 2,455 (no data); and tunnels, no data (34 restored, of 20 km. total length).

The foregoing restoration work consumed 6,000 wagon loads (20 tons) of metal, 2,600,000 cu. metres of timber, 12,000,000,000 railway sleepers, 500,000 telegraph poles, and 26,000 km. of rails.

DENMARK

Copenhagen Suburban Electrification

The line from Copenhagen to Roskilde carries all the main-line traffic from Copenhagen to the West, in addition to a considerable suburban traffic to intermediate stations. As the suburban traffic is still growing, it has now been decided to lay additional lines between Valby and Glostrup. Two new lines will be provided from Valby to Brøndbøster where a new station will be built. It is considered that one additional line will suffice from Brøndbøster to Glostrup. The Danish Rigsdag has been asked for permission to carry out the earth and bridge works for the electrified tracks between Valby and Glostrup, a distance of 7.3 km. (4.5 miles). The earth and bridge works will cost about Kr. 2.2 million, while the remaining works, such as track laying, signalling, rolling stock, and power station, are expected to cost about Kr. 10 million.



Electrified lines in Copenhagen area

When the line is completed, the electric trains from Klampenborg to Copenhagen will go on to Glostrup. Diesel trains will carry the traffic between Glostrup and Roskilde, and all other trains will run non-stop between Valby and Roskilde.

Work on the electrification of the Vanløse-Ballerup line, 10.5 km. (6.6 miles) has now gone as far as is possible for the present. Materials for the track, rolling stock and signalling installations are lacking. When these two lines are completed the electrified mileage round Copenhagen will be 60.1 km. (37.4 miles) of track and 73.4 km. (45.6 miles) of route.

Lyntog Boat Train Restored

In connection with the restoration of the steamer service between Harwich and Esbjerg, the Danish State Railways have reintroduced the Lyntog diesel train, the "Englænderen" (The Englishman), between Esbjerg and Copenhagen. This train was withdrawn in 1939 at the time when drastic reductions were made in the Lyntog services on account of shortage of imported fuel oil, as reported in the *Diesel Railway Traction Supplement* to *The Railway Gazette* of September 29, 1939.

New Swiss Double-Unit Electric Locomotives

The latest electric locomotives for the St. Gotthard route are constructed as double-units and represent the most improved form of construction in Switzerland for single-phase operation

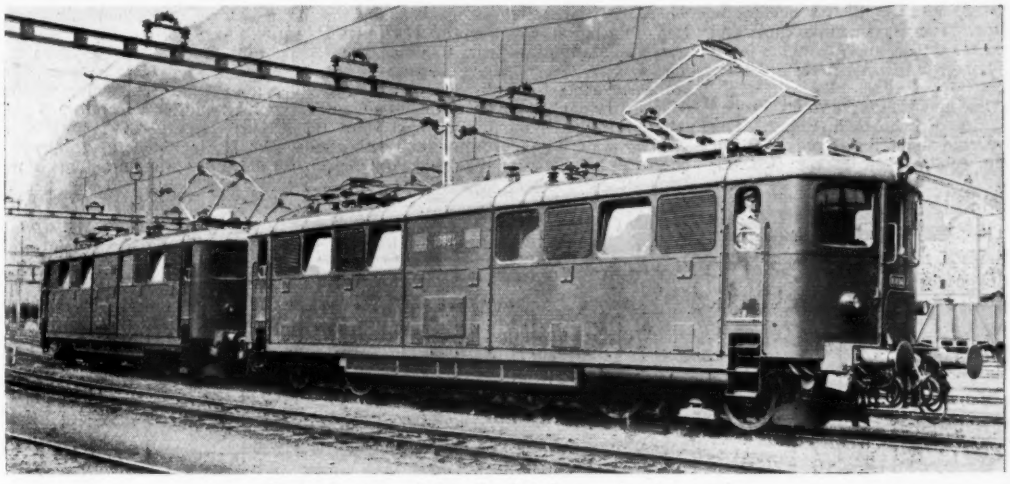
TO deal with the heavy traffic over the difficult St. Gotthard route, the Swiss Federal Railways ordered in 1939 four high-speed electric locomotives of a class known as the Ae 4/6, and subsequently eight more were obtained, so that twelve are now in service. At the Swiss National Exhibition held at Zurich in 1939, the management had exhibited the previous and very powerful machine known as the Ae 8/14 (8 driving axles out of a total of 14) used on the same route, and a decision already had been made to construct subsequent locomotives on the twin-unit principle, operating under multiple-unit control.

When working out a design on these lines it was found possible, using the experience gained with the Ae 8/14 engine, to cut down the weight of certain parts of the equipment and, by so doing, to abolish one carrying axle on each locomotive unit, notwithstanding that some portions of the apparatus necessarily would in this case have to be duplicated.

In this way the Ae 8/14 became what may be called a 2 (Ae 4/6) locomotive, composed of two Ae 4/6 units, each—as the classification symbol implies—having four driving axles out of a total of six, the equivalent of a 2-8-2 type in steam working. The complete twin engine thus normally has eight driving and four carrying axles. The accompanying drawing, Fig. 1, represents one of the half-units. Operation is on the standard Swiss system of 15,000 volts, single phase, 16⅔ cycles.

There are, as in the case of the Ae 8/14 type engine, two motors per driving axle with their pinions to the inside and actuating a Winterthur type universal drive, designed by the Swiss Locomotive & Machine Works. The pinions are spring-borne and the gear is double reduction 1 to 3·22. The necessary lateral movement of a set of driving wheels is obtained through a splineway coupling built in the large gear-wheel. The drive is completely encased in an oil-and-dust tight housing, which serves as stiffener to the main frame.

There is also a central gangway through the body of the engine connecting the driver's cabs over the gear boxes and passing round one side of the main transformer ; the commutators of both traction and fan motors are readily accessible. On one section the commutator covers of the traction motors are adjustable and can be left open in winter to warm the interior of the engine. The oil-circulating pump is attached to the main transformer and its motor interior, including the bearings, is in communication with the transformer circulating oil, dispensing with all oiling and special attention. The main h.t. circuit breaker is also located here and is compressed-air operated.



General view of the Ae 4/6 locomotive in service

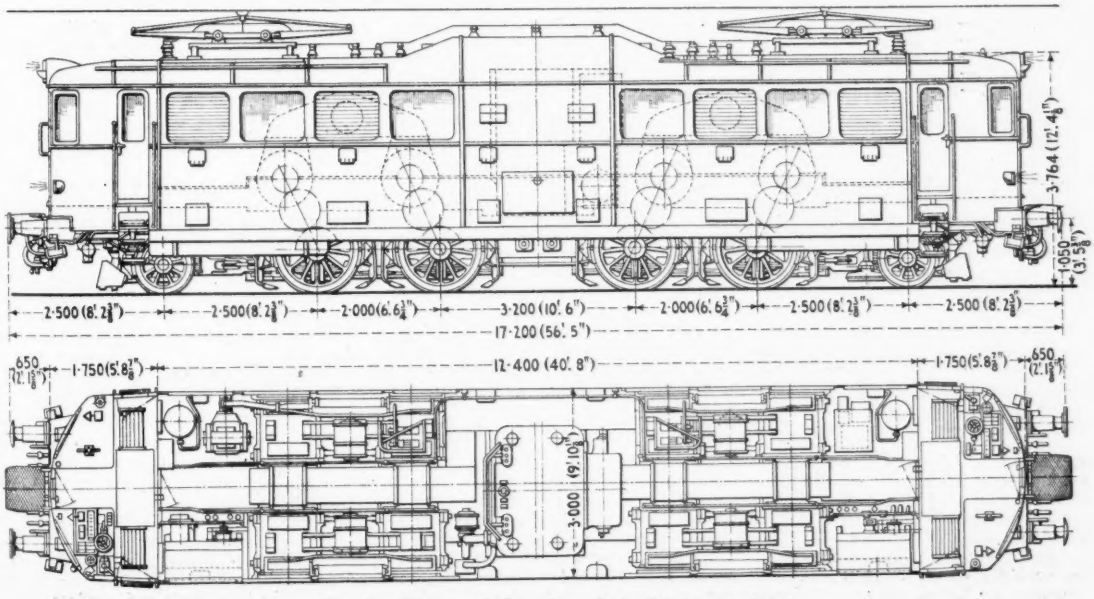


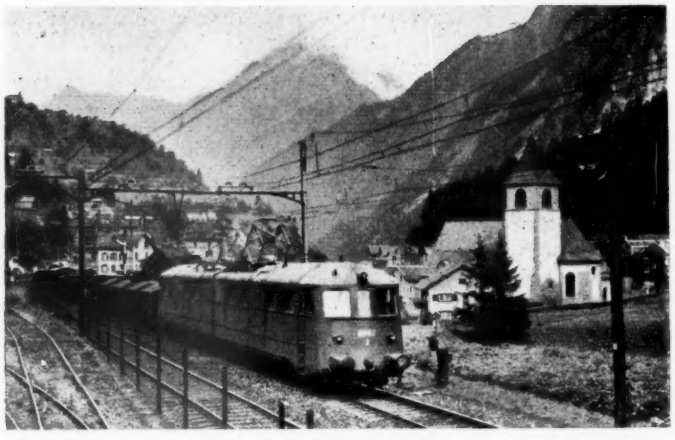
Fig. 1—Plan and elevation of Ae 4/6 locomotive

The principal dimensions, etc., of the half-unit are as under:—

Length overall	56 ft. 5 in.
Total wheel base	40 ft. 0 in.
Dia. of driving wheels	5 ft. 5 in.
Dia. of carrying wheels	3 ft. 1½ in.
Weight of mechanical portion	55·9 tonnes
Weight of electrical equipment ...	48·8 tonnes
Weight in working order	106 tonnes

Traction Motors

The traction motors have oil-ring lubricated bearings lined with white metal. Bearing bushes are bronze, except where steel has had to be used temporarily. Copper windings were used on the first locomotives of the class, but war conditions compelled the makers to resort to aluminium, which has reduced proportionately the output. When the intended construction is followed, however, the total horse-power at the motor shafts on continuous rating is 5,400, with a one-hour maximum rating of 6,200. Tractive effort at the wheel treads is 36,080 lb. at continuous rating at 53·13 m.p.h., with maximum value of 61,600 lb. at 63·69 m.p.h.



The Ae 8/14 locomotive, No. 11,852, the forerunner of the Ae 4/6 locomotive in service on the St. Gotthard line

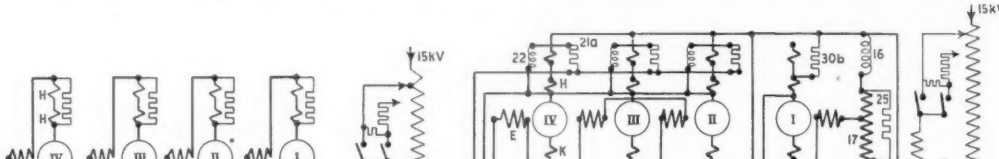
Regenerative Braking

The equipment for regenerative braking is of exceptionally light weight and includes an exciter motor. There is one brake choke coil and one exciter transformer, with the usual types of ohmic and inductive auxiliary equipment.

The driving and braking circuits for the traction motors are shown in Fig. 2. The regenerative equipment forms only 4·2 per cent. of the total weight of the electrical apparatus. A minimum of controlling contacts is used. The braking coils are cooled directly through a connection to the ordinary blower which delivers 6 cu. m. (211 cu. ft.) of air per minute direct, and a total of 8 cu. m. (282 cu. ft.) of air per minute are extracted from the interior of the body of the engine.

As on the Ae 8/14 machine, control is effected in the h.t. circuit, a method introduced in recent years in the single-phase system and which is understood to have given excellent results. The motor transformer, which has no tappings, is connected step by step to the tappings on the primary regulating transformer connected direct to the contact line. The contact in the driver's master controller effect a sub-division of the resistance in the tap changer motor circuit, and the motor drives the tap changer until it reaches a position corresponding with the controller handle, when the voltage difference produced by moving the latter is once more equalised. The reversal of this motor, when moving the controller handle back, is effected by relays. The details of this apparatus are not the same as met with on the Ae/14 engines, but the principle of effecting the control on the h.t. side is the same. When two half-units are coupled they operate as one locomotive on the multiple-unit system and can haul a train of 770 *tonnes* on a gradient of 2·7 per cent. at nearly 41 m.p.h. The coupling plug connectors for the various circuits are 26-way, of a type used for some years on the Swiss lines which has proved very satisfactory. The control and lighting circuits and the usual accumulator battery are fed from a small converter set, using in some cases valve rectifiers and in others a motor generator, a reversion to earlier practice.

We are indebted to the *Oerlikon Bulletin* for the above brief particulars of these powerful locomotives, which are representative of main-line practice in Switzerland today, and to Oerlikon Limited for the use of the illustration. We understand that the engines were built in association with two other well-known Swiss engineering firms and that the Ateliers de Construction Oerlikon supplied the electrical equipment. It is the custom of the management of the Federal Railways to place such work as far as possible with all the firms interested and so foster the national industries to the utmost of its power.



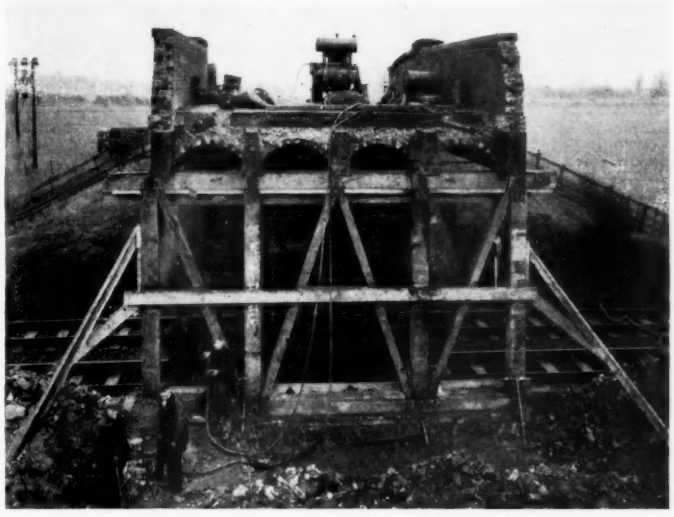
I, II, III, IV—Traction motors
E—Exciter windings
H—Interpole windings
K—Compensation windings
7—Regulating transformer
16—Auxiliary choking coil
17—Exciter transformer
21a—Ohmic interpole shunts
22—Inductive interpole shunts
23—Brake choking coil
23a, 23b—Auxiliary windings on brake choking coil
25—Ohmic resistor
30b—Ohmic auxiliary resistor

Fig. 2—Main diagrams of the traction motor circuits for driving (left) and regenerative braking (right)

THE SOCIETY OF BRITISH PAINT MANUFACTURERS.—The Society of British Paint Manufacturers Limited held its first annual general meeting in London recently. The President of the Society, Mr. C. G. Heywood, said he thought it highly important that the Society should encourage, not only the maximum technological efficiency amongst its members, but that the Society itself should emphasise that aspect in a collective manner on behalf of its members, to both Government authorities and the consumer industries. The technical efficiency of the industry was a matter of national importance. That was one of the reasons why the basis of qualification for membership of the Society was founded on technological capacity. It was the Society's belief that the development of the consumer divisions would assist in efficiency in the relationships between the specialising elements in the paint industry and the consumer industries that are dependent on specialised products and services.

The Gloucester-Cheltenham Quadrupling

Substantial earthworks and extensive re-signalling were involved in this important wartime undertaking



An early stage in the Churchdown Road Bridge widening, taken on January 8, 1942 (*See also pictures on pages* 123–126)

BRIEF reference was made in our September 14, 1945, issue (page 266) to the important wartime scheme for the provision of additional running facilities and also siding accommodation on the six miles of line between Gloucester and Cheltenham, L.M.S.R. and G.W.R. This was achieved by the construction of two additional tracks, thus quadrupling the section. The first stage in the widening was to erect additional signal boxes at Badgeworth (between Hatherley junction and Churchdown) and Elm Bridge (between Churchdown and Gloucester engine shed sidings) early in the war, and this was completed before the main quadrupling scheme was adopted.

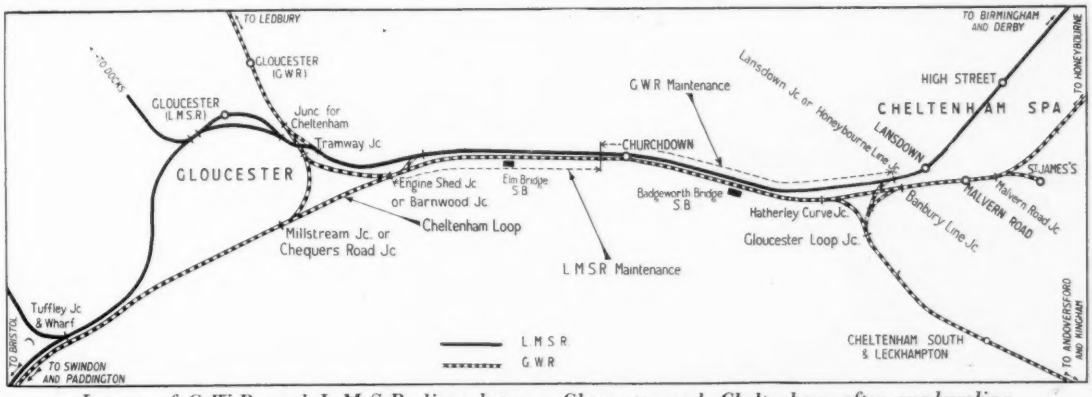
In June, 1941, rough estimates of the cost of the main work were provided, and in July of that year the work was authorised. At that juncture neither the G.W.R. Engineer nor the L.M.S.R. Engineer had plans sufficiently advanced upon which a contract would normally be let, and, as the G.W.R. was heavily involved in other work, the Chief Engineer of the L.M.S.R. undertook to let and supervise the contract for the whole of the work, each company being responsible for its own signalling and permanent way work, except that the plain road on the G.W.R. portion was to be laid in by the Contractor. The only available engineering data on the G.W.R. portion naturally being in the hands of the G.W.R. Engineer, this fact immediately involved the Engineering Drawing Office staffs of both companies in the production of the necessary drawings, and their resources were severely strained to produce, at short notice, sufficient information upon which a tender could be based. Matters were sufficiently advanced, however, for a contract to be let in September 1941, to Sir Robert McAlpine & Sons Ltd., and the contractor began excavation on September 15. The next problem was to keep pace with the production of further necessary drawings and quantities after the tender was let. However, by close co-operation and mutual assistance, these difficulties were overcome and in no instance did the contractor suffer delay from this cause. Similarly, the efforts of both Estate Departments were equally successful in overcoming the difficulties of speedy acquisition of the necessary land.

The earthwork was of considerable magnitude; the longest cutting was 1 mile 48 chains, and the longest embankment 1 mile 24 chains. Another, 58 chains in length, reached a maximum height of about 40 feet, and, because of the waterlogged condition of the natural ground outside the railway property, and extensive slipping of the existing embankment in the past, considerable surface drainage had to be effected here before tipping could be begun. The excavation exceeded a quarter of a million cubic yards, of which about 140,000 cubic yards was required for embankments, leaving to be dealt with a surplus of 120,000 cubic yards. Owing to the continuous length of cutting and bank, hauls of considerable length were unavoidable.

A Disposal Problem

The disposal of spoil presented a problem, as the use of the existing main lines was so heavy that the accommodation of train loads of surplus excavation thereon could not be entertained. It became obvious, therefore, that something out of the ordinary would have to be done if the work were to be completed in anything like the desired time. One spoil site in a triangle between branch and main lines was obtained to take the spoil from one cutting, but the bulk of the surplus from another cutting had still to be disposed of, and, to avoid excessive haulage, adjacent land for a spoil tip was acquired on top of the cutting slope. Unfortunately, a public road ran across this site; this had to be diverted and a new road constructed for about ¼-mile.

The contract work also included the extension of seven underbridges, five new openings under existing overbridges, the extension of 10 culverts varying from 2 ft. to 8 ft. wide, and long lengths of retaining walls on the eastern portion. Track laying comprised 11½-miles of plain road and 3¼-miles of points and crossings. The remodelling of the junctions at Cheltenham and Gloucester was a complicated



Layout of G.W.R. and L.M.S.R. lines between Gloucester and Cheltenham after quadrupling

matter, and the new work had to be carried out in four main stages to keep traffic going at Gloucester. At Cheltenham it was also necessary to lower a considerable length of the diverging Banbury branch line to maintain a suitable gradient with the altered position of the junction points.

One bridge at the Cheltenham end carried a very important main road over the railway and its extension would not have been completed in reasonable time but for

the fact that permission was granted to close the road for four months, during which time the contractor built the new arch bridge.

The main scheme involved considerable signalling work and included the provision of 36 track circuits, 13 gantry signals, 4 new signal boxes, one of which has 102 levers, and the removal and replacement of the whole of the telegraph poles and wires along the 6 miles of line. The widening works were carried out by the L.M.S.R. from Engine Shed to the half-way post just south of Churchdown, and by the G.W.R. on the remainder, and, as the line was completely resignalled at the time, the standards of the two companies were adhered to on their respective portions, all the Cheltenham end being G.W.R. lower quadrant semaphores, and the Gloucester end L.M.S.R. upper-quadrant semaphores with colour-light distant signals. The various sections of widening were brought into use as soon as ready; the last portion to be completed was between Lansdown junction and Hatherley junction, which was finished on Sunday, August 23, 1942, the same day that the new Lansdown junction signal box was opened. The whole quadrupling was brought into use on August 24, 1942.

New signal boxes replaced the old ones at Lansdown junction, Hatherley junction, Churchdown, and Engine Shed sidings; the last-named box was renamed Engine Shed junction after the alterations. There were also some important track alterations between Engine Shed junction and Tramway junction, including an extra down goods loop. Certain loops were provided between Cheltenham High Street and Lansdown Station, which, though not strictly part of the widening, were bound up with it. For several weeks the alterations at Lansdown junction were facilitated by single-line working between Lansdown junction and Gloucester Loop junction for all trains on the Andoversford branch, as these interferred with working.

There are two series of mileposts on the Cheltenham-Gloucester line, the L.M.S.R. series on the up side, from Derby (London Road junction) to Bristol, and the G.W.R. on the down side, from zero at Engine Shed junction to Cheltenham St. James. The whole of the widening was carried out on the south side of the line, so that the old up line became the new up relief, and the old down line the new up main; the two additional tracks became the new down main and the down relief. Whereas formerly the lines were known as L.M.S. Down (G.W. Up) and L.M.S. Up (G.W. Down) respectively, owing to the L.M.S.R. taking the general down direction from Derby to Bristol, while the G.W.R. regarded it as down from Paddington to Cheltenham, from August 23, 1942, the G.W.R. gave way, and the lines are now down from Cheltenham to Gloucester.

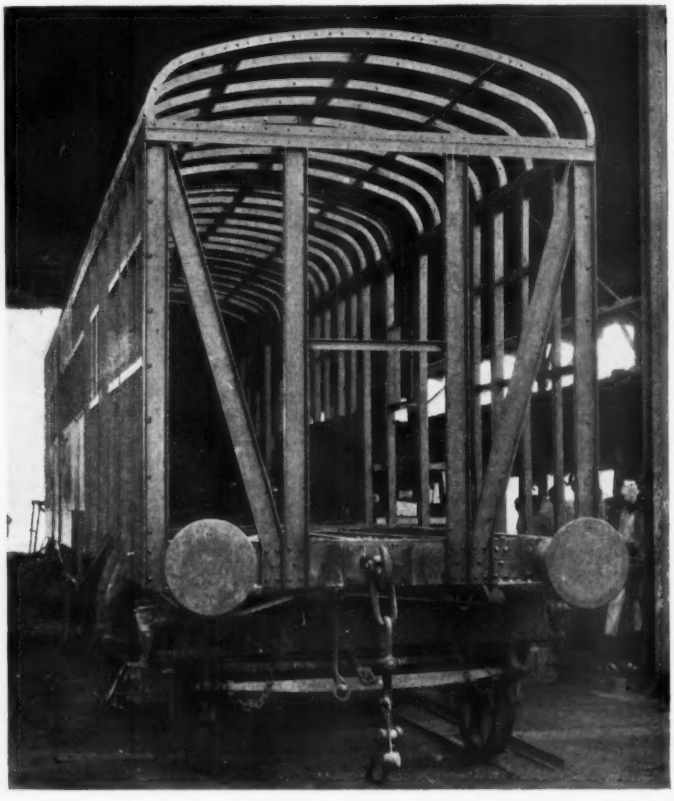
All-Steel Austerity Coaches, N.W.R., India

The first girder-constructed steel body, built in Moghalpura shops on an old underframe

AT the Moghalpura shops of the North Western Railway, India, a new type of third class coach is under construction. The design makes use of certain mild-steel sections available with the Steel Controller and readily obtainable under normal quota delivery. The usual design of timber-bodied stock calls for no constructional steel other than that required for such members as gussets and carlines, but in this all-steel coach, the only wood is that used as packing, on to which the normal internal timber sheathing is attached.

The side frame is of girder-like construction, having angles for the top chord members. The pillars are light channels riveted to the underframe, and the steel panel plates are welded to the pillars. The window headers and waist rails are of angles welded to the pillars. The roof framing consists of angles, and the carlines—two angles riveted back to back to form a Z-section—are welded to the framing. The purlins are welded to the carlines and extend the full length of the coach, forming a stiff sub-assembly riveted to the side frames. The end posts are built up of channels of relatively heavy section, riveted to the headstock at the bottom and welded to the longitudinal roof members at the top.

Although described as an "austerity" coach because it is being built on a small and obsolete type of underframe, the coach will lack none of the usual fittings provided in third class carriages. The side seats will have higher and more comfortable back-rests, the lavatory arrangements are of an improved design, and, for the first time on Indian coaching stock, close-sliding windows are being fitted. The coach is flush-finished on the outside and there are no mouldings or water guttering.



First N.W.R. all-steel third class austerity coach under construction at Moghalpura

WESTINGHOUSE STATIC PHASE CONVERTER.—In the first instance, the static one to three-phase converter made by the Westinghouse Brake & Signal Co. Ltd., of Chippenham, Wilts, was developed to provide a three-phase supply to feed projector arc rectifiers from single-phase mains, and thus eliminate the possibility of beat flicker. Considerable progress was made in this field, especially during the war, when many garages were equipped with machine tools, and turned out large quantities of components for aircraft, tanks and guns. These comprised three-phase equipment which could not readily be exchanged for single-phase machines because of the increased space required for a motor having the necessary characteristics. It was necessary, therefore, to obtain a three-phase supply, and this problem was solved by the Westinghouse converters in cases where no three-phase main was available. As a rule, a single converter can run about 10 h.p. of motors on a group of machine tools, and the total h.p. of motors now running on these converters is about 3,700. While the demand continues for operating machine tools and other motors, further uses are arising, such as the operation of a three-phase rectifier feeding a chromium bath from a single-phase supply, to prevent polarisation.

Gloucester-Cheltenham Quadrupling

Stage one of the work at Banbury Line Junction, Cheltenham, of the Cheltenham-Gloucester quadrupling. View from Lansdown Road Bridge looking towards Gloucester and Andoversford, taken on January 8, 1942

View from Lansdown Road Bridge taken on August 25, 1942, showing stage two of the work at Banbury Line Junction, Cheltenham, also looking towards Gloucester and Andoversford

Gloucester-Cheltenham Quadrupling

Churchdown Road Bridge, looking towards Cheltenham, on January 8, 1942

Churchdown Road Bridge, stage two. Progress of the quadrupling by May 12, 1942

Churchdown Road Bridge, stage three. A view of the widened structure on July 8, 1942

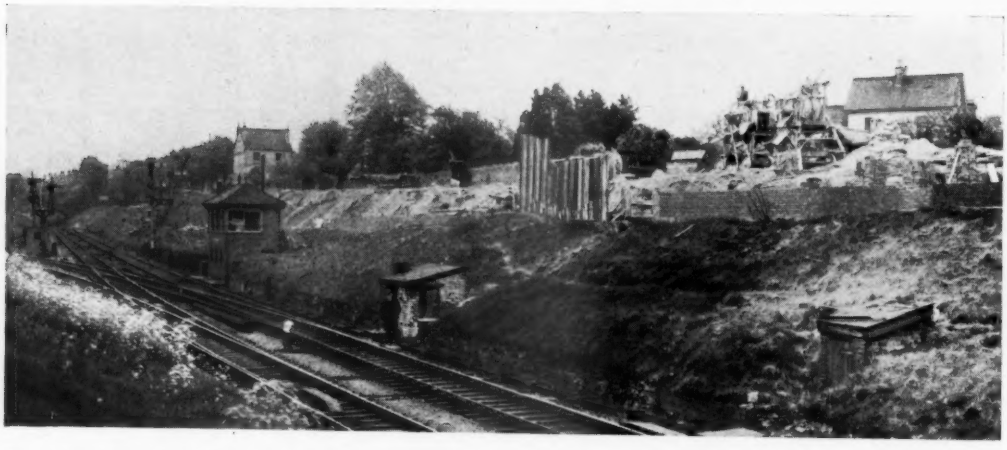
Gloucester-Cheltenham Quadrupling

Lansdown Road Bridge, looking towards Cheltenham, on January 8, 1942

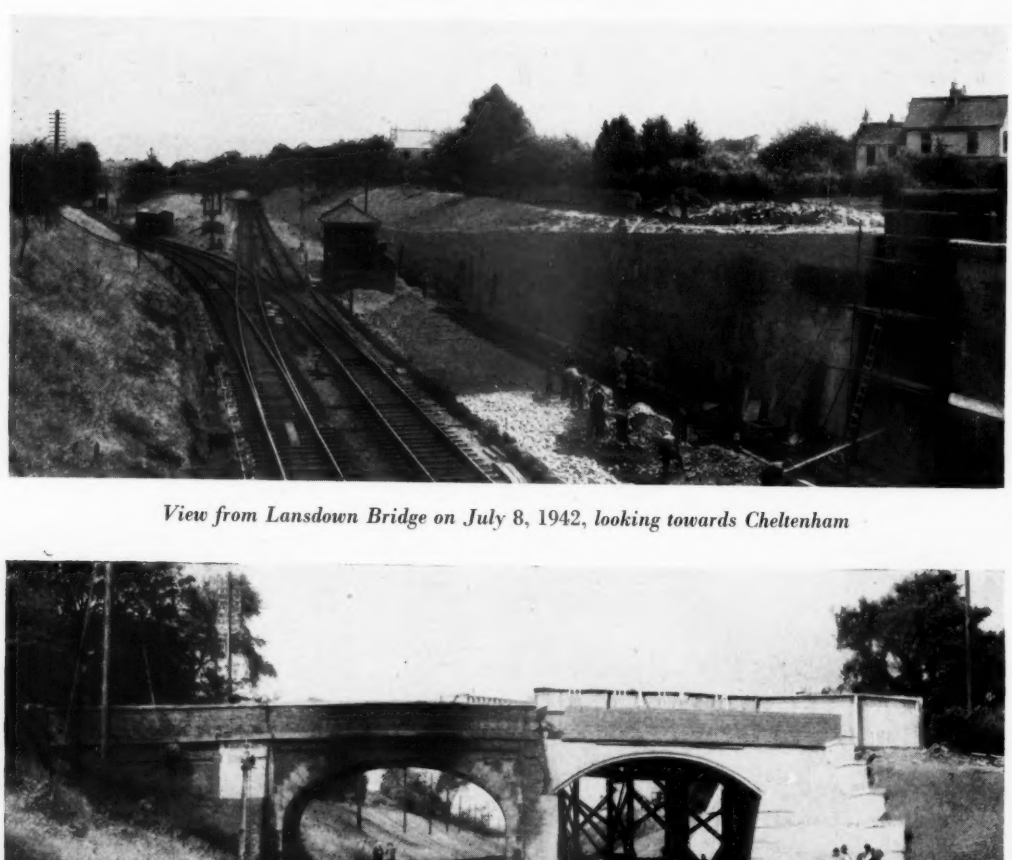
Lansdown Road Bridge, looking towards Cheltenham, on August 25, 1942, showing the resited junction with the curve to Andoversford

View of Lansdown Road Bridge on July 8, 1942, but looking towards Gloucester, and therefore with the new bridge-work to the left of the picture

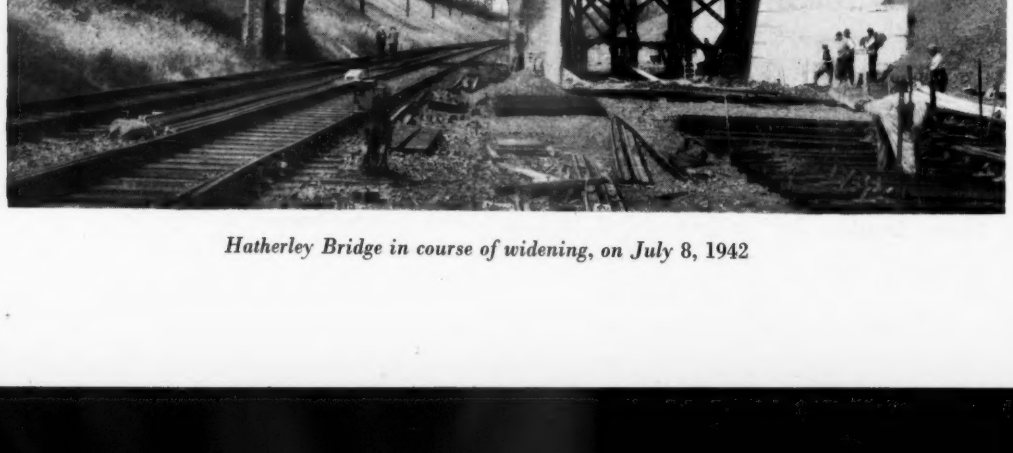
Gloucester-Cheltenham Quadrupling



View from Lansdown Bridge on May 12, 1942, looking towards Cheltenham ; note early stages of retaining wall construction behind signal box



View from Lansdown Bridge on July 8, 1942, looking towards Cheltenham



Hatherley Bridge in course of widening, on July 8, 1942

RAILWAY NEWS SECTION

PERSONAL

L.M.S.R. C.M.E. Department

The L.M.S.R. announces the following appointments, consequent on the death of Mr. C. E. Fairburn, Chief Mechanical & Electrical Engineer:—

Mr. H. G. Ivatt to be Chief Mechanical Engineer.

Mr. R. C. Bond to be Mechanical Engineer (Locomotive Works).

Mr. E. Pugson to be Mechanical Engineer (Carriages & Wagons).

Mr. F. A. Harper to be Mechanical Engineer (Electrical).

Canadian Pacific Railway

Mr. H. J. Humphrey, Vice-President of the Canadian Pacific Railway, assigned to special duties, retired on December 31.

Mr. William Manson, General Manager of Western Lines, has been appointed Vice-President of Personnel. He will report to Mr. W. M. Neal, Vice-President of the company, and will have his headquarters in Montreal.

The late Sir Allan Macdiarmid, who was Chairman & Managing Director of Stewarts and Lloyds Limited, and President of the British Iron & Steel Federation, left £111,217.

Mr. R. J. Ellery has been appointed Secretary to the British Electric Traction Co. Ltd., in the place of Mr. R. P. Beddow, who will devote the whole of his time to directorial duties with companies associated with the B.E.T. Mr. Ellery's association with the B.E.T. organisation commenced in 1926. He has held appointments as Secretary to B.E.T. associated companies for a number of years. Among his present positions (which he continues to hold) are the Secretaryships of the B.E.T. Federation Limited, B.E.T. Omnibus Services Limited, and the British Omnibus Companies Public Relations Committee.

British Overseas Airways Corporation

In the House of Lords on January 23 Lord Winster, Minister of Civil Aviation, gave the constitution of the new board of the British Overseas Airways Corporation, as follows:—Lord Knollys, Sir Harold Howitt, Mr. G. D'Erlanger, Mr. John Marchbank, Sir Harold Hartley, Mr. G. M. Garro-Jones, Lord Burghley, Major Thornton, Major McCrindle, and Mr. C. Wakefield Jones. He said that the first two had accepted his invitation to continue as the whole-time Chairman and Deputy-Chairman, respectively. Lord Winster added that the board had arranged also for Sir Harold Hartley and Mr. D'Erlanger, pending the passage of the Air Transport Bill, and the formation thereafter of the European Corporation foreshadowed in the White Paper, to devote themselves to matters concerning the European services, present and projected. On the formation of the European corporation, Sir Harold Hartley would become Chairman, and Mr. D'Erlanger, Deputy-Chairman.

We regret to record the death on January 23, at the age of 91, of Sir Alexander Kaye Butterworth, who was General Manager of the North Eastern Railway from 1906 to 1921. He was born on December 4, 1854, and was educated at Marlborough College and at London University, where he took his LL.B. degree. He was called to the Bar at the Inner Temple in 1878, but left it to be admitted a solicitor in 1883. The same year he joined the legal staff of the Great Western Railway Company. He took an active part in the inquiry into railway rates held by the Board of Trade under the Railway & Canal Traffic Act, 1888, and was also employed by the Scottish and Irish Committees to attend that inquiry at Edinburgh and Dublin. He published three books dealing with railway rates procedure under the Rates & Charges Order Confirmation Acts, "Railway Rates and Traffic" and "The Practice of the Railway & Canal Commission," both published in 1889, and "Maximum Rates & Charges on Railways," which was published in 1897. Leaving G.W.R. service in 1889, he accepted the position of Clerk of the Peace and Clerk to the Bedfordshire County Council; but in 1891 he succeeded Sir George Gibb as Solicitor to the North Eastern Railway Company, which position he held until March, 1906, when he succeeded Sir George Gibb as General Manager. Sir Alexander was a member of the Board of Trade Railway Conference of 1908, and contributed a valuable memorandum on competition to its report. His evidence before the Railway Conciliation Commission of 1911 as to the effect of recognising the railwaymen's unions was notable. Previous to that, he had formed a Conciliation Conference on the N.E.R. for the settlement of wages and conditions of service. A knighthood was conferred on him in January, 1914. During the war of 1914-18 he was Chairman of the Compensation Accounts Committee. He afterwards gave evidence before the Colwyn Committee with reference to the claims of the railways against the Government. In 1920 he was chosen by the Railway Companies' Association to give evidence on behalf of the English and Scottish Railways at the inquiry by the Rates Advisory Committee held to assist the Minister of Transport in framing the scheme of the rates clauses of the Railways Bill. He retired at the end of 1921 from the General Managership of the N.E.R. as it existed before any amalgamation scheme with it had been effected under the Railways Act, 1921. Since his retirement one of his interests has been the protection of pedestrians against reckless road driving; he was Chairman of the Pedestrians' Association, 1930-39. The funeral service was held on January 28 at Hampstead Parish Church and was followed by interment in the churchyard.

(*See also editorial article*).

The late Sir Alexander Kaye Butterworth

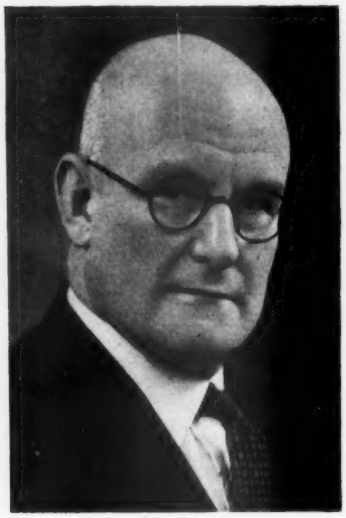
General Manager, North Eastern Railway, 1906–21

Mr. F. W. Abraham, M.I.Loco.E., A.M.Inst.T., Assistant Superintendent of Motive Power, L.M.S.R., has been elected President of the Association of Railway Companies' Locomotive Running Superintendents.

We regret to record the death on January 26, at the age of 87, of the Rt. Hon. Lord Colwyn, Bt., LL.D., J.P., D.L., a Director of the Dunlop Rubber Co., Ltd., and other companies. Lord Colwyn was formerly a Director of the Underground Electric Railways Co., of London, Ltd. He was Chairman of the Departmental Committee on Railway War Agreements, which reported to the Minister of Transport in 1921.

Mr. A. Forbes Smith, Assistant Goods Manager (Southern Area), L.N.E.R., as recorded in our December 14 issue, has been appointed Traffic Stores Superintendent, responsible to the Chief General Manager. The Minister of Supply & Aircraft Production has released him from his duties with that Ministry from February 1. He will be available to the Ministry in an advisory capacity beyond that date. He served in France throughout the war of 1914-18 with the Gordon Highlanders, and was seconded for duty in 1916, on recovery from wounds, with the Director of Docks, soon after the Directorate-General of Transportation was formed. After the armistice Mr. Forbes Smith was transferred to Rotterdam, where he was responsible on the military side for the transit up the Rhine of supplies for the Army of Occupation and the German civil population. On joining the L.N.E.R., Mr. Forbes Smith had experience in the Works Section of the Chief General Manager's Office, and was

Mr. A. Forbes Smith
Appointed Traffic Stores Superintendent, L.N.E.R.



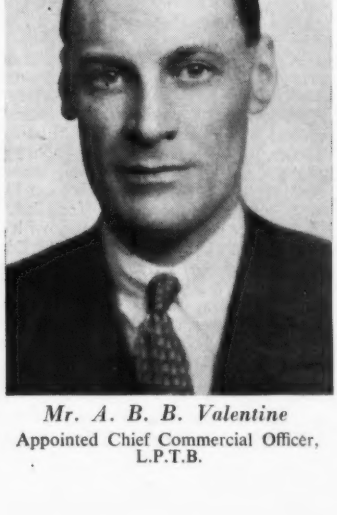
Mr. H. H. Swift
Appointed Divisional Superintendent, Cardiff, G.W.R.

Mr. N. H. Briant
Appointed Divisional Superintendent, Chester, G.W.R.

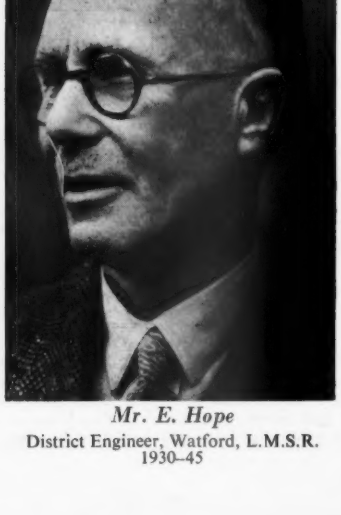
made Head of the Road Transport Section when it was formed in 1929. In 1932 he was associated with the Salter Conference, having been closely concerned in the preparation of the statistical information on which the financial recommendations of the conference were based. Later in the same year Mr. Forbes Smith had a period of special duty with the Railway Companies' Association in connection with the passage through Parliament of the Road & Rail Traffic Act, 1933. In 1934 Mr. Forbes Smith was appointed Chief General Manager's Assistant for Rates, Statistics & Parliamentary Matters. In the winter of 1936-37 he toured India as Assistant to the Indian Railway Inquiry Committee (the Wedgwood Committee). Early in 1939 Mr. Forbes Smith had another period of special duty with the Railway Companies' Association in connection with the "square deal" proposals. He was appointed Assistant Goods Manager (Southern Area), L.N.E.R., in 1939, and in November, 1940, was seconded to the Ministry of Supply as Assistant Controller-General of Transportation. In July, 1941, he was appointed Deputy Director-General, Supply Services, in control of the Transport Division of the Ministry, and, on the abolition of the Supply Services department in 1945, received the title of Chief Transport & Movement Officer.

Mr. H. H. Swift, Divisional Superintendent, Chester, Great Western Railway, who, as recorded in our December 28 issue, has been appointed Divisional Superintendent, Cardiff, entered the company's service in 1904, and spent two years in the Audit Office before transferring to the General Manager's Office, where he remained for nine years. From 1915 to 1923 Mr. Swift was attached to the office of the Superintendent of the Line as a train runner, and he then was transferred to the Chief Goods Manager's Office as Continental Commercial Agent to the company. After holding that position for six years he became Goods Agent, Manchester, and in February, 1934, returned to the Traffic Department as Chief Clerk to the Divisional Superintendent, Chester. In October, 1937, Mr. Swift was appointed Assistant Divisional Superintendent, Cardiff, and in March, 1941, was transferred to Paddington as New Works Assistant to the Superintendent of the Line. He was appointed Divisional Superintendent, Chester, in May, 1942. Mr. Swift is a member of the Railway Traffic Advisory Committee of the Manchester Chamber of Commerce; the Railway Panel, Manchester Smithfield Market Tenants & Traders Association; the Railway Panel, Birmingham, South Staffordshire, East Worcester & North Warwick Traders' Conference; and of the Manchester & Merseyside Railway Committees on Post-War Development.

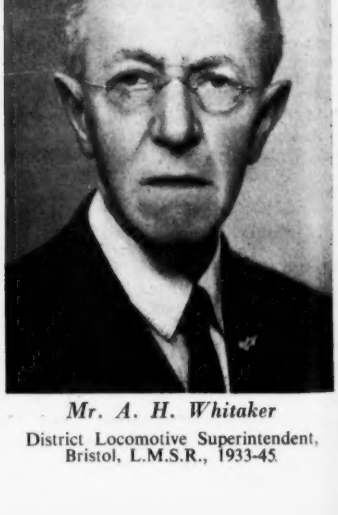
Mr. N. H. Briant, Assistant Divisional Superintendent, Chester, Great Western Railway, who, as recorded in our December 28, 1945, issue, has been appointed



Mr. A. B. B. Valentine
Appointed Chief Commercial Officer, L.P.T.B.



Mr. E. Hope
District Engineer, Watford, L.M.S.R. 1930–45



Mr. A. H. Whitaker
District Locomotive Superintendent, Bristol, L.M.S.R., 1933-45

Divisional Superintendent, Chester, entered the company's service at Swindon, and in 1923 was transferred to the General Manager's Office. In 1927 he was selected to undergo a course of training under the company's special training scheme and for four and a half years gained experience at various stations, and divisional and headquarters offices. On completion of the course he returned to the General Manager's staff until 1933, when he was appointed Junior Assistant to the Divisional Superintendent, Exeter; he was transferred to Newport (Monmouthshire) in a similar capacity in 1936. Mr. Briant has been associated with the Chester Division since 1937, when he was appointed Chief Clerk to the Divisional Superintendent; he became Assistant Divisional Superintendent in June, 1939.

Mr. A. B. B. Valentine, M.Inst.T., formerly Chief Supplies Officer, London Passenger Transport Board, who, as recorded in our January 18 issue, has been appointed Chief Commercial Officer, and, in addition to retaining his responsibility for the Supplies Department (purchasing and stores), will be responsible for fares and charges, traffic development, and the commercial advertising work of the Board, was born in December, 1899, and was educated at Highgate School, and at Oxford, where he was a scholar of Worcester College, and took an honours degree in 1922. In March, 1928, he joined the Underground group of companies and was engaged for a short time on publicity work, until he became an Assistant in the office of the late Mr. Frank Pick, then Managing Director. He was Mr. Pick's senior personal assistant when the L.P.T.B. was formed, and remained in that position until 1936. Mr. Valentine was Fares Officer of the Board from 1936 to 1939, Commercial Officer from 1939 to 1943, and Chief Supplies Officer during the last two years. He is a member of Council of the Institute of Transport, Chairman of the Institute's Henry Spurrier Memorial Committee, and a member of its General Purposes and Finance & Establishment Committees.

Mr. E. Hope, who, as recorded in our December 14 issue, has retired from the position of District Engineer, Watford, L.M.S.R., spent his early years in South Africa, and, after education at Macclesfield Grammar School, joined the Lancashire & Yorkshire Railway in 1897 as a pupil under the late Mr. W. B. Worthington, then Chief Engineer. After training in the drawing office, and on permanent-way and contract works, Mr. Hope was employed as an outside assistant; and in 1909 he was appointed Assistant, Electrified Lines, in which capacity he was employed in supervising electric track equipment on the Liverpool and Southport electrified line, and subsequently on the electrification of the Aintree and Ormskirk line. He later was similarly employed on the electrification of the Manchester and Bury line with 1,200-volt side contact equipment designed by the late Sir John Aspinall. In 1919 he was appointed a General Assistant to the Chief Civil Engineer, and in 1924, Assistant to the District Engineer, Manchester. In 1930 Mr. Hope was appointed to take charge of the Watford Engineering District of the L.M.S.R., from which position he has now retired.

Mr. A. H. Whitaker, District Locomotive Superintendent, Bristol, L.M.S.R., who retired on December 31, entered the service of the Somerset & Dorset Joint Railway, Highbridge, as a pupil under his father, the late Mr. Alfred Whitaker, in 1897; he was transferred to the Derby Works of the Midland Railway in 1899 to complete his training. In 1903 he obtained a position with the British Westinghouse Electric & Manufacturing Co., Ltd., and was in charge of the installation of machinery, and equipment of electric plants. He returned to the Midland Railway as Test Inspector in 1906. Mr. Whitaker was appointed District Locomotive Superintendent, Bath, S.D.J.R., in 1907, and from 1915 to 1919 was Acting Resident Locomotive Carriage & Wagon Superintendent at Highbridge. In 1933 he was appointed District Locomotive Superintendent, Bristol, including Bath and the S.D.J.R. section; in 1934 Gloucester was added to the Bristol District.

Funeral of Mr. William Whitelaw

The funeral of Mr. William Whitelaw, formerly Chairman of the London & North Eastern Railway Company, took place at Old Monkland Cemetery on January 23, and was preceded by a service in Ratho Parish Church, at which, in addition to family mourners, the following officers of the L.N.E.R. were present:—Mr. W. Y. Sandeman, Engineer, Edinburgh (representing Sir Ronald Matthews, Chairman, and directors of the company); Mr. L. E. Marr, Passenger Manager (Scottish Area) (representing Sir Charles H. Newton, Chief General Manager, and the Divisional General Managers, Southern, North Eastern and Scottish Areas); Mr. C. J. Y. Dallmeyer, Solicitor (Scotland) (representing Mr. Miles Beevor, Chief Legal Adviser, Mr. W. H. Johnson, Secretary, and other officers of the L.N.E.R., past and present); and Mr. C. G. Jarrett, Hotels Superintendent (Scottish Area).

Mr. William M. Jeffers, President of the Union Pacific Railroad, U.S.A., has retired, and Mr. George F. Ashby, formerly Executive Vice-President, has succeeded him as President.

Colonel Edmundo de Macedo Soares e Silva has been appointed Minister of Transport & Public Works in the new Brazilian Cabinet.

We regret to record the death on January 23, at the age of 74, of Lord Justice MacKinnon, a Lord Justice of Appeal since 1937, who from 1928 to 1937 was *ex-officio* Commissioner for England on the Railway & Canal Commission.

We regret to record the death on January 28, at the age of 58, of Mr. Frank Parkinson, Chairman of Crompton Parkinson Limited.

G.W.R. Appointments

Mr. H. V. Wilson, Assistant Head of Working Department, Chief Goods Manager's Office, Paddington, to be Head of Working Department, Chief Goods Manager's Office, Paddington.

Mr. S. S. Hirst, Head of Section, Working Department, Chief Goods Manager's Office, Paddington, to be Assistant Head of Working Department, Chief Goods Manager's Department, Paddington.

Mr. W. N. Webster, Senior Surveyor, Chief Engineer's Office, Paddington, to be Assistant, Chief Engineer's Office, Paddington.

Mr. C. H. Diggory, Assistant, Chief Engineer's Office, Paddington, to be Resident Engineer, Chief Engineer's Office, Paddington.

Mr. S. W. Smith, Chief Clerk, Paddington, to be Assistant Chief of Police, Paddington.

Mr. A. S. Leybourne, Divisional Police Superintendent, Cardiff, to be Assistant to the Chief of Police, Paddington.

Mr. G. A. Carvosso, Assistant to the Chief of Police, Paddington, to be Divisional Police Superintendent, Cardiff.

L.M.S.R. Staff Changes

Mr. R. Hunter, Deputy Goods Terminal Superintendent, Chief Operating Manager's Office, Watford H.Q., to be Goods Terminal Superintendent, Chief Operating Manager's Office, Watford H.Q., in place of Mr. E. Falconer, retiring.

Mr. C. R. L. Rice, Assistant, Office of Divisional Superintendent of Operation (Motive Power), Manchester, to be District Locomotive Superintendent, Willesden.

Mr. T. L. Taylor has resigned his position as Chairman of George Spencer Moulton & Co., Ltd., on account of ill health. Mr. J. C. Spencer has been appointed Chairman & Joint Managing Director, and Mr. G. E. Godfrey, Joint Managing Director. Mr. H. P. Lambert has been appointed a Director of the company.

We regret to record the death on January 24, at the age of 79, of Mr. Randall Robert Henry Davies, F.S.A., a solicitor who for many years represented the old North Eastern Railway in London, and author of "The Railway Centenary: A Retrospect," 1925.

Great Northern Railway (Ireland)

Mr. G. S. Farrelly, Agent, Monaghan, has been appointed Agent at Dublin Coaching Station.

Monsieur A. P. de Malglaive, Chairman of the Compagnie Générale Transatlantique, Limited, has been awarded, by the French Government, the Cross of Commander du Merit Maritime, for war services to the Free French Mercantile Marine.

A Joint Trade Committee of the Association of British Chambers of Commerce and the Federation of British Industries has been set up to act as a liaison committee with a view to formulating over the widest field a joint national policy on overseas economic questions. Each organisation is to retain complete liberty of action to express to the Government and in other quarters its independent views on any subject coming within the purview of the joint committee. The composition of the committee is as follows:—

Representing the Association of British Chambers of Commerce:—Mr. J. S. Dodd (President), Sir Arnold Gridley, M.P., Lord Luke, Mr. John McLean.

Representing the Federation of British Industries:—Sir Clive Baillieu (President), Sir Peter Bennett, M.P., Mr. E. W. Goodale, Mr. G. S. Maginness.

We regret to record the death on January 21, at the age of 79, of Mr. F. Samuelson, M.I.Mech.E., M.I.E.E., for many years Chief Turbine Engineer, and latterly a Director, of the British Thomson-Houston Co., Ltd. He joined that company in 1897, and was in charge of the Turbine Department from its inception in 1903 until 1939, when he relinquished that appointment and the seat on the board which he had occupied since 1934. He then devoted his attention to consulting work until his retirement in 1941. Mr. Samuelson, who was born in Sweden, was a member of the Swedish Engineers' Society in London, of which he had been chairman from 1926 to 1928. He was honoured in 1932 by the King of Sweden, who conferred on him the Royal Order of Nordstiernan.

The Running Man's Ideal Locomotive

*Summary of discussion on Colonel Topham's paper**

In opening the discussion, the President (Mr. W. S. Graff-Baker) remarked that he did not consider the author's main suggestion (*i.e.*, to make the Running Superintendent the head man) to be very "heretical." When the Chief Mechanical Engineer was responsible for the running as well as the design, the punishment would be made to fit the crime. No one could dispute the author's plea for simplicity. He himself had coined an aphorism that if a thing was complicated in proportion to its function, it was wrong. All draughtsmen should have running experience. He agreed that the operating staff should take a part in design, provided that only the equipment which they would handle was submitted to them. He feared that if the author brought 25 drivers to look at a model of a cab, there would be 26 opinions on the quality of the design.

Mr. A. H. Whitaker observed that he had been waiting nearly 40 years for the ideal locomotive, and feared that if it did not arrive by December 31, he would no longer be in the railway service to give it the welcome it deserved. He thought the time had come when a good standard locomotive for a given job should be designed by the best brains in the Chief Mechanical Engineer's Department, by the Running Department, and—not least—by the contractors. Such locomotives should be built by outside firms, and all spare parts should be bought from contractors. This would save a great deal in shop maintenance, and in men and machines. Once such a design had been arrived at, it should not be subjected frequently to various small modifications, as happened only too often today. He did not think everyone would agree with the author's advocacy of the parallel boiler. He preferred fewer and larger tubes than were usually used, and these should be "square-pitched," not staggered vertically or horizontally. Superheating was unnecessary on some freight engines, where frequent stopping on pick-up jobs was unavoidable. The square brick arch made it difficult to keep the tubeplates clean. Lead plugs should have 11 threads per inch (not 8, as in present L.M.S.R. practice). Understep injectors were very satisfactory and were easily accessible. As to the trial of cab designs, he entirely agreed with the President. Anyhow, a wooden cab would not show where drivers might burn themselves.

Mr. W. Cyril Williams said that if the author's suggestions represented the best that could be done, British locomotive builders might feel it was time they went out of business. His firm did not approve of plate frames; it had used bar frames for 25 years; 90 per cent. of the engines leaving its works were so fitted. He considered that with coal firing the superheater elements should extend to about 1 ft. 4 in. from the tubeplate; about 2 ft. was universal practice for oil burning. He did not think the British locomotive industry had much to learn from other countries. For 15 years his firm had been putting as many boiler fittings, etc., as possible outside the cab, due to the great heat from the big back head of the Garratt firebox. His firm had fitted rocking firebars for 40 years and self-cleaning smokeboxes for 15 years. He had been to Persia, and thought that the long openings in the tenders for taking water were very useful; but the Persians were children so far as railway operation was concerned, and this was pandering to their inexperience.

Mr. H. P. Renwick remarked that most overseas railways had suffered from the fact that the designers of their locomotives were not conversant with local operating conditions. Better liaison between the Running Superintendent and Chief Mechanical Engineer overseas and the consulting engineers and manufacturers at home was the obvious cure. Earlier papers before this Institution had described a policy for repairs and maintenance on Indian railways which had proved itself during the recent war years. The Locomotive Standards Committee, under the Railway Board, issued instructions for trials of new fittings or modifications to improve locomotive operation, and distributed reports of results, for information, or for adoption or not, as the case might be. The members were Chief Mechanical Engineers of the Class 1 railways, and the discussions at their biennial meetings were most useful. He was pleased to find that most of the items recommended by the author for his ideal locomotive were already standard practice on Indian railways.

Importance of Co-operation

Mr. R. C. Bond thought that, in this country, the railways had progressed beyond the stage suggested in the paper. Today a large measure of co-operation existed between the Chief Mechanical Engineer and the Operating or Locomotive Running staff. Without such co-operation trouble would be experienced. He could not agree that jobs sent by the Running Department to be dealt with in the works received a low priority. For many years wooden model cabs had been made. The author's advocacy of needle bearings seemed to be inconsistent with the bulk of his remarks, which obviously were based on experience overseas where, he thought, needle bearings would be avoided. The author advocated the Pennsylvania type of piston valve, with only two rings; the multi-ring type, now standard on most British railways, he suggested, was much better from the viewpoint of steam-tightness and easy maintenance.

Mr. L. N. Flatt thought that the author was unnecessarily gloomy in his comments on failure in liaison between the Running Department and the Chief Mechanical Engineer. He mentioned the possibility of interchange of staff between the works and the running sheds. He considered the 2-8-2 locomotive to be a very valuable type for both general-purpose and freight work and would hesitate to accept the 4-6-0 type for a general-purpose machine, as its trailing coupled axle was a constant source of trouble. Special fittings or gadgets frequently gave good results when they were carefully watched and undergoing trials; once they were received into normal service, they were liable to suffer from perfunctory or faulty maintenance and thus often failed to achieve their object and were of extremely doubtful value in actual service. The author had initiated an all-welded cab in India, but did not refer to it in the paper. It was hoped that it might obviate vibration in the component sheets; and when he himself had left India it appeared to be justifying that hope. He was in favour of standardisation up to a point, but in attempting to standardise there was the risk of creating difficulties on railways where the conditions differed from those in the minds of the designers. The maintenance of poppet valves should be regarded as the servicing of a new unit assembly; when there was trouble with the cam box, the old box should be taken off and a new one substituted for it, the defective box being sent back to the shops where a specially-trained staff would deal with it.

Mr. J. S. Tritton said that if the items in the paper had been tabulated and a vote taken upon each of them, it might have been possible to arrive at the ideal locomotive design. The value of the paper lay in its plea for better co-operation between the Running Department and the design staff. He believed that all locomotive men at heart were either running men or shop men, and the consulting engineer should come in between. His was the function of co-ordinating the demands made by his clients to embody certain features, and his was the responsibility for working out the details, in conjunction with the locomotive builder, but he felt it was equally the duty of the consulting engineer to see the effect of his design in operation. In that respect British builders and British consulting engineers were at a disadvantage, because they did not have the same opportunity of seeing the fruits of their labours as had the engineers in, for example, the United States. When he was in the United States he had been struck by the very close collaboration between the American locomotive builders and the purchasers who operated their products. When the locomotive builder had built a locomotive in co-operation with the railway chief, he had an opportunity of following it up with his technical men in service. If firebox trouble was reported, he would send his drawing office firebox section chief to look at it and to debate the problem with the man in the roundhouse who had been worried by the trouble.

* Presented to the Institution of Locomotive Engineers in London on November 28, 1945. An abstract of the paper appeared in our issue of January 25, 1946.

Southern Railway Emergency Radio

Fourteen fixed radio stations and six mobile units were maintained by the Southern Railway during the war to provide point-to-point communication between important traffic centres for train control purposes in event of dislocation of the telephone system by enemy action. The radio network had to be put into operation on only two occasions, once in May, 1941, after the last big bomber raid on London, and again in May, 1942, after the attack on Exeter. Altogether 52 operators were employed, and 62 cypher clerks. The staff consisted of operators supplemented by specially trained railway personnel.

The locations of the fixed stations, kept secret during the war for security reasons, are now announced to have been as follow:

Waterloo (London)	Falmer (Sussex)
Deepdene (Surrey)	Portsmouth (Hants)
Orpington (Kent)	Woking (Surrey)
Cuxton (Kent)	Romsey (Hants)
Hothfield (Kent)	Wilton (Wilts)
Tunbridge Wells (Kent)	Pinhoe (Devon)
Redhill (Surrey)	Newton St. Cyres (Devon)

The mobile units were mounted in road vehicles.

The Electrification of the Southern Railway.—A meeting will be held by the Southern Railway Lecture & Debating Society, Chapter House, St. Thomas' Street, S.E.1, on Thursday, February 14, at 5.45 p.m., when a paper will be read on "The Electrification of the Southern Railway," by Mr. S. B. Warder, M.I.Mech.E., M.I.E.E., Mem. A.I.E.E.

Questions in Parliament

Manpower for Railways

Lt.-Commander Gurney Braithwaite (Holderness—C.) on January 22 asked the Minister of War Transport if he would give figures showing the number of men required to meet railway requirements, including the replacement of Italian prisoners; and the extent to which such requirements had been met during the last five months.

Mr. Alfred Barnes (Minister of War Transport) in a written answer stated: The number of immediate vacancies in railway workshops and in the operating and permanent-way grades notified to the Ministry of Labour as outstanding at the end of June, 1945, was 16,300, and the corresponding figure at the end of November was 14,600. In the intervening five months, recruitment totalled some 40,000. This enabled wastage to be made good and certain additional notified requirements to be met, as well as a reduction from 11,000 to 10,600 in the number of Italian prisoners employed.

Demobilisation of Railway Personnel

Lt.-Commander Gurney Braithwaite (Holderness—C.) on January 22 asked the Minister of Labour & National Service if he would state the number of railwaymen still serving with His Majesty's Forces, compared with the number at the beginning of June last.

Mr. George Isaacs (Minister of Labour & National Service): Detailed information of this kind can only be given by the Service departments and I have satisfied myself that its extraction would involve a disproportionate amount of time and work, and would, moreover, interfere with the progress of the release of men and women from the Services. I hope, therefore, that Lt.-Commander Braithwaite will not press for the information asked for, which can only be given at the cost of slowing down the current work of releases.

Lt.-Commander Braithwaite: Is the Minister satisfied with the rate of release of skilled railway personnel, in view of the great handicaps under which our railways are at present operating?

Mr. Isaacs: Railway personnel have a special priority now for release.

Captain L. D. Gammans (Hornsey—C.): Could not the Minister get this information by asking the railways?

Mr. Isaacs: I will take the matter up. We want the information without unnecessary work, and if the railway companies will be good enough to supply it I shall be glad to communicate it to the House.

Lt.-Commander Braithwaite: I beg to give notice, in view of the unsatisfactory nature of that reply, that I will do my best to obtain facilities to raise the matter on the Adjournment.

Sir Waldron Smithers (Orpington—C.) on January 22 asked the Minister of Labour & National Service whether, in view of the recent accidents on the railways and the difficulties experienced by British railways in giving adequate service to the public because of the shortage of staff, he would take immediate steps to release as many railwaymen as possible.

Mr. George Isaacs: In consultation with the Minister of War Transport, I have recently given very careful consideration to the shortage of staff on the British railways, and it has been agreed to release up to 5,000 railway workers of various grades from the Forces under the class B scheme.

Sir W. Smithers: Will the Minister bear in mind the loyal and devoted service given by railway staffs during the war under private enterprise, and will he give them all the help he can, to relieve them?

Mr. Isaacs: I am very glad to note that their loyal and devoted service is recognised and appreciated. Certainly every effort will be made to relieve them of the burden.

Main-Line Coaches

Mr. A. T. Lennox-Boyd (Mid Bedford—C.) on January 22 asked the Minister of War Transport if he would state the number of passenger carriages and coaches available for the main-line railway companies now and on September 2, 1939.

Mr. Alfred Barnes wrote in reply: I would refer Mr. Lennox-Boyd to my answer to a similar question by Mr. A. C. M. Spearman (Scarborough & Whitby—C.) on November 12, 1945 [see our November 30 issue, page 575].

Transport Advisory Council

Lt.-Commander L. W. Joynson-Hicks (Chichester—C.) on January 22 asked the Minister of War Transport if he would state the names of the members of the Transport Advisory Council, constituted by the Road & Rail Traffic Act, 1933, the dates when they had been appointed, and when their appointments would expire.

Mr. Alfred Barnes in a written answer stated: Sittings of the Transport Advisory Council were suspended during the war, and the terms of office of the members ended in 1943. The council has not yet been re-constituted.

Woodford-Marylebone Train, L.N.E.R.

Mr. Tom Smith (Normanton—Lab.) on January 23 asked the Minister of War Transport if he would state the number of times on which the 7.38 a.m. train from Woodford & Hinton calling at, among other places, Aylesbury, Wendover, Great Missenden and Amersham, had run to time since August 1; the average number of minutes late into Marylebone and the maximum number of minutes late on any one particular day during the period concerned; and if he was prepared to draw the attention of the railway concerned to the state of affairs existing at present.

Mr. Alfred Barnes in a written answer stated: Between October 1, 1945, when the winter timetable came into operation, and January 12, 1946, this train reached Marylebone on time on 19 occasions. The average late arrival was 7.8 minutes, and the maximum delay was 50 minutes on December 19, due to the failure of a track circuit. The performance of this train is recognised to be unsatisfactory: it is due to a variety of causes which are under examination by the company in an endeavour to secure improved running.

Travelling Conditions for Troops

Mr. D. L. Lipson (Cheltenham—Ind.) on January 22 asked the Secretary of State for War if he had now been able to provide heat and other reasonable amenities and to reduce the overcrowding in the transport provided for troops in their journeys to overseas stations; and if he would see that travelling conditions for troops were at least as good as those for the civilian population.

Mr. J. J. Lawson (Secretary of State for War) in a written answer stated: There is an acute shortage of passenger locomotives and rolling stock on the Continent, but energetic steps are being taken to deal with the situation, which is gradually improving. There is a similar shortage in the Middle East, but I am informed that taken as a whole travelling conditions for troops both on the Continent and in the Middle East are at least as good as those for the civilian population. As regards troopships, material reductions cannot at present be made in the carrying capacity of ships, but as the troopship position gets easier it is intended to improve conditions by reducing the capacity of ships, particularly in troop decks.

Late Running on the G.W.R.

Last Sunday, *The Sunday Express* presented the third of its official railway timetables, giving the actual running times of main-line trains and the reasons for their lateness. It was a schedule provided by the Great Western Railway, and is reproduced below.

Fog, frost and snow added to the complications caused by engine breakdowns, bad coal and speed restrictions due to track repairs during the past week.

	Minutes late on January 18	19	21	22	23	24	25
Paddington to Pembroke Dock, 8.55 a.m. ...	3	22	23	24	11	49	22

[Track repairs on January 19, 21, 22, 23 and 24. Fog on January 21, 22 and 24. Engine lost time through steaming troubles on January 19 and 25.]

	Minutes late on January 18	19	21	22	23	24	25
Paddington to Birkenhead, 9.10 a.m. ...	4	12	104	5	5	13	16

[Fog accounted for the big delay on January 21. There was also fog on January 22. On January 19 there was a vacuum-brake fault, and on January 24 the train was stopped because of an open door. Signal delays caused by heavy traffic ahead on January 25.]

	Minutes late on January 18	19	21	22	23	24	25
Paddington to Birkenhead, 6.10 p.m. ...	67	40	80	106	68	25	25

[Snow on January 18. Fog on January 19 and 21, and both on January 23. Engine failure on January 22, signal delays on January 24, engine failure and points failure at Paddington on January 25.]

	Minutes late on January 18	19	21	22	23	24	25
Paddington to Stourbridge, 4.45 p.m. ...	46	0	61	6	0	0	20

[Engine difficulties caused delay on January 18. Started late on January 25, following delay caused by engine trouble. Fog on Japuary 21.]

	Minutes late on January 18	19	21	22	23	24	25
Paddington to Carmarthen, 5.55 p.m. ...	28	5	70	10	17	25	55

[Engine failure caused delay on line on January 18. Fog and stopped train for open door on January 21. Track repairs on January 22, 23, 24. Engine failure and points failure at Paddington on January 25.]

	Minutes late on January 18	19	21	22	23	24	25
Paddington to Cheltenham, 6.35 p.m. ...	21	40	72	30	26	31	54

[Reaction due to engine failure on January 18 and 25, plus points failure at Paddington on January 25. Late starting due to engine on January 22, engine difficulties January 23, engine losing time January 24. Fog on January 19, 21 and 22.]

	Minutes late on January 18	19	21	22	23	24	25
Swansea to Paddington, 6.30 a.m.	22	17	13	11	0	30	0

[A freight train failed on the line on January 18. Points failure on January 19. Fog on January 21, 22 and 24.]

	Minutes late on January 18	19	21	22	23	24	25
Swansea to Paddington, 4.40 p.m.	29	23	60	12	30	0	23

[Track repairs on January 18, 19, 22 and

23. Relief trains ahead on January 18. Engine lost time on January 23 and 25. Fog on January 21.]

	Minutes late on January						
	18	19	21	22	23	24	25
Neyland to Paddington, 8.15 a.m.	17	13	4	20	19	29	39

[Track repairs on January 18, 19, 23, 24, 25. Signal delays due to relief trains ahead on January 25. Fog on January 22.]

	Minutes late on January						
	18	19	21	22	23	24	25
Penzance to Paddington, 9.30 a.m.	40	31	26	6	10	16	18

[Engine lost time on January 18, 19 and 24. Track repairs January 18, 19, 23 and 24. Snow on January 18 and 19. Signal delays on January 23 and 25. Stopped to relight tail lamp on January 19.]

	Minutes late on January						
	18	19	21	22	23	24	25
Penzance to Paddington, 8.0 p.m.	0	46	32	15	13	0	0

[Fog on January 19 and 21. Track repairs January 22. Train stopped for door open on January 23.]

Experimental Coach for London Transport

An experimental coach, designed to help in ascertaining the most suitable type of rolling stock for the forthcoming electric service between the City and Amersham, went into service on the Metropolitan Line of London Transport on January 25. At present it is running to Watford and Rickmansworth in trains of compartment stock.

The Amersham, Rickmansworth, and Watford services have to provide for intensive Underground traffic between Finchley Road and Aldgate, in addition to serving outer suburban and country stations on the remainder of the journey. A compromise therefore has been effected between the open type of coach, with its high standing capacity, and the compartment carriage. The coach is divided into three compartments by partitions, which are less than the full width of the vehicle to leave a corridor the whole length of one side. Seats are provided for 57 passengers, compared with 40 in the open stock now on the Uxbridge services.

All seating is arranged transversely. Apart from the seats at each end, the remainder are placed in the centre to allow circulation at both sides. The facing seats opposite the doorways are spaced wider apart than normal to give free passage for passengers alighting or entraining.

There are wide luggage racks above all seats, a necessary provision, as in the course of the journey the trains deal with main-line passengers to and from Liverpool Street, Kings Cross, St. Pancras, and Euston Stations. The luggage rack supports serve as grab-handles for standing passengers, and horizontal grab-handles are also provided along the side passages.

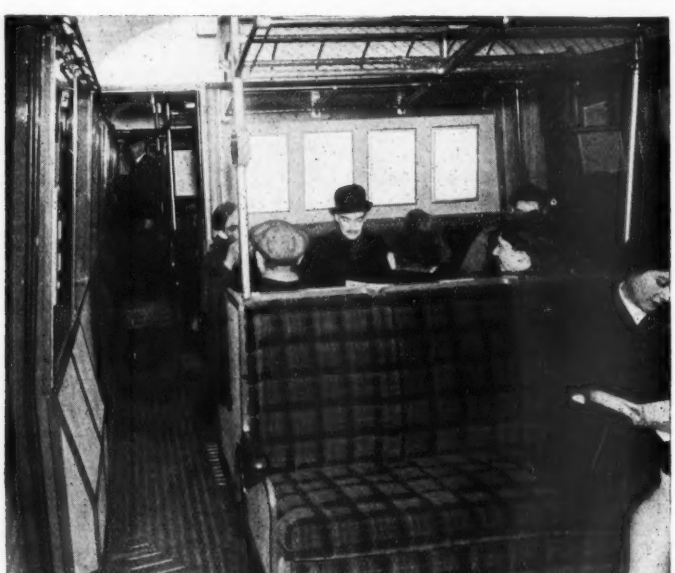
The doors leave a clear space of 4 ft. 6 in. when fully open. They are pneumatically operated and normally controlled by the guard, but can be operated by passengers in outer suburban districts by means of push-buttons. The passenger control operates one leaf of each door, as this gives ample width for ingress and egress at the less busy stations and prevents undue draughts. It is necessary to keep the "shut" push-button depressed until a door is fully closed. If released before this happens, the door returns to the open position. The guard is still able to close doors which have been left open when passenger control is in operation. Illuminated panels show when the passengers-push buttons are operative. The door rollers run on a flat floor rail.

Fluorescent lighting is provided, supplied from a 1,200-cycle motor-alternator in the car. There are also four battery lamps in each compartment for emergency use.

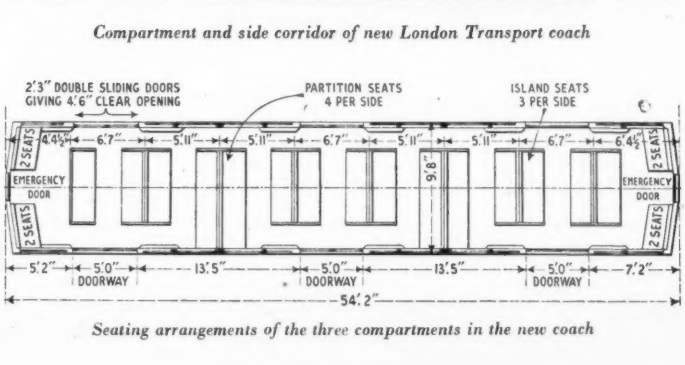
In the experimental car each compartment has a different decorative scheme, and three different heights of seat back are provided, comprising two of the Board's existing types and a new and higher back with head-rests. As the services on which it is now running are normally composed of compartment stock, the car is coupled to a compartment coach with a guard's compartment equipped for operation of the pneumatic doors.

The car was constructed at the Board's Acton Works. Special fittings and materials were supplied by the following contractors:—

Imperial Chemical Industries Limited Dufay Chromex Limited ...	Plastic finish
G. D. Peters & Co. Ltd. ...	Air-door equipment
Lightalloys Limited ...	Sliding doors and seat frames
General Electric Co. Ltd. Metropolitan-Vickers Electrical Co. Ltd.	Fluorescent lighting
Benjamin Electric Limited	Lighting fittings and push-buttons
Mead, McLean & Co. Ltd.	Ventilators
G. Beaton & Sons Ltd. ...	Advertisement frames and casement lights
Bluemel Bros. Ltd. ...	Firmoid finish
Semtex Limited	Flooring
British Aluminium Co. Ltd. Alumilite & Alzak Limited	Anodised aluminium panels
W. W. Howard Bros. & Co. Ltd.	Interior woodwork
Geo. Spencer, Moulton & Co. Ltd.	Sensitive door edges



Compartment and side corridor of new London Transport coach



Seating arrangements of the three compartments in the new coach

Staff & Labour

Road Haulage Wages

At its meeting on January 10 the Road Haulage Central Wages Board decided to request the Minister of Labour & National Service to make an Order giving effect to the proposals of the board, set out in the board's Notice R.H.(19), for the amendment of the existing Road Haulage Wages Order governing the statutory remuneration of road haulage workers falling within the scope of the board. This decision was reached after the board had considered the reports from the area wages boards on the proposals and the objections which had been lodged against the proposals.

The board proposes that the statutory remuneration be increased by 6s. a week, except in the case of certain classes of workers under 18 years of age, for whom the increase proposed is 3s. 6d. a week; that the additional allowances payable for night work be increased from 2d. to 4d. an hour or part of an hour; and that on and from July 1, 1946, grade 3 areas shall be treated as grade 2 areas and grade 2 rates shall then apply to the present grade 3 areas.

The proposed amendments will not come into force unless and until the Minister of Labour & National Service has made an Order confirming them, and due notice will be given if such an Order is made.

Permanent Way Institution Annual Meeting and Dinner

Section meetings now at pre-war standard

The sixty-second annual winter general meeting of the Permanent Way Institution was held at the Institution of Civil Engineers, London, on Saturday, January 26, with the President, Mr. V. A. M. Robertson, C.B.E., in the Chair. Members from the majority of the provincial Sections, as well as from London, attended, including Mr. S. L. Murgatroyd, O.B.E., who was President for the years 1896-1897.

In reporting the Institution's activities during the past year the Secretary, Mr. H. Janes, said that meetings of the various Sections were now at pre-war standard, and that during the war years five new Sections had been formed, at Bombay, Bristol, Croydon, Lancaster, and North Wales. Meetings in India and the Sudan had also taken place regularly, and in India 103 members had been elected during 1945.

The enrolment of additional members continued to increase year by year, and 602 were recruited in 1945. Of this number 458 were from home railways; the figures were L.M.S.R., 260; G.W.R., 65; Southern, 58; L.N.E.R., 45; L.P.T.B. 30.

Back to Normal

Three *Journals* had been issued during the year, and these contained 167 reports of section meetings, full reports of council and general meetings and nine original papers. Now that the war was over it was of interest that the Institution had been able to continue the usual three issues during each of the war years notwithstanding the difficulties of paper control and shortage of labour. Regarding the publication "British Railway Track" the whole of the first printing had been disposed of, but a reprint was in hand.

So far as finances were concerned, these were satisfactory; the balance in hand was £3,855, and the membership stood at the record number of 4,200.

Mr. A. S. Quartermaine, C.B.E., then moved the re-election of the President. The report of the Institution's activities just given by the Secretary showed that Mr. Robertson had the affairs of the Institution at heart and he had given much valuable time to visiting provincial sections, as well as presiding at Council meetings during the past three years. The proposal was unanimously agreed by acclamation.

Mr. Robertson, in reply, said that a year ago when re-elected for the third year he remarked that he thought his term of office had run its course, but he now found himself in the same position. However, he was very proud to have been re-elected and would be happy to serve the Institution in the future as in the past.

Vice-Presidents were then elected as follow:—England, Mr. B. Lloyd Davies, J.P.; Scotland, Mr. W. Paterson; Wales, Mr. C. R. Irving; Ireland, Mr. G. J. Murphy; India, Mr. W. R. Maunder, J.P.; Sudan, Mr. W. L. Harwood. The officers were re-elected, namely, Secretary, Mr. H. Janes; Treasurer, Mr. F. Lawson; Assistant Treasurer, Mr. E. Bywater; Editor, Mr. John Ratter, C.B.E.

After other routine business had been dealt with, Mr. C. E. R. Sherrington, O.B.E., M.C., M.A., gave a talk on "The Railway Research Service in Peace and War." The speaker dealt in detail with the inception of and peacetime activities of the Railway Research Service, afterwards giving some facts as to investigations made and work carried out in connection with the war. Slides were shown to illustrate both the peace and wartime work. Finally, as an item of general interest two films which had been forwarded from the Swedish Railways were shown, one illustrating modern methods of relaying permanent way, the other a short film of a rotary snow plough in operation.

At the conclusion, Mr. D. D. Williams expressed thanks to Mr. Sherrington for his interesting lecture.

The first annual dinner since 1939 was later held at the Connaught Rooms, Great Queen Street, when the President, Mr. V. A. M. Robertson, C.B.E., occupied the Chair. Colonel E. Gore-Browne, D.S.O., O.B.E., Chairman of the Southern Railway Company, was the principal guest, and among others present were Messrs. D. R. Bennett, O.B.E., C. J. Chaplin, M.B.E., F. H. Colebrook, Brigadier H. L. F. Dawes, Messrs. A. Dean, Lt.-Colonel H. B. Everard, F. E. Harrison, O.B.E. (Past President), J. A. Kay (Editor, *The Railway Gazette*), K. C. Marrian, R. F. Morkill, Sir Alan Mount, C.B., C.B.E., Messrs. S. L. Murgatroyd, O.B.E. (Past President), A. S. Quartermaine, C.B.E., J. Ratter, C.B.E., C. E. R. Sherrington, O.B.E., M. G. R. Smith, J. C. L. Train, M.C., W. K. Wallace, C.B.E. (Past President), and Lt.-Colonel G. R. S. Wilson.

The toast of the Permanent Way Institution was proposed by Colonel E. Gore-Browne, who commenced by congratulating the Institution on its activities during the war years. He had the privilege of opening the permanent way exhibition at Charing Cross during the Diamond Jubilee year (1944), and thought that the efforts to stage such exhibitions in London and the provinces during that year showed a wonderful spirit. He paid tribute to those who had to carry out the maintenance of the permanent way during the war. Often he had been to see the damage occasioned by enemy attacks and was impressed by the way in which the members of the Institution had dealt with tangled tracks which he thought could never be put right.

The country in the great victory recently won owed more to railwaymen than was realised. They were facing a future which to some appeared rather gloomy. He would ask all railwaymen and women to continue to do as much as they had done during the war. On the Southern the long distance traffic was up 500 per cent.; the traffic to the Continent was much heavier than it was before the war. Their workshops had been on war contracts and they could not build locomotives. He would ask all to tell the public some of these things: engines had been grossly overworked during the war; the coal was not as good to raise steam. Given time they would get things right again. Mr. Morrison had recently said that if you want to nationalise you must prove your case, and likewise prove the case for non-nationalisation. They on the Southern Railway would accept the challenge. In concluding, Colonel Gore-Browne wished the Institution continued prosperity.

Tribute to the President

Mr. A. S. Quartermaine, C.B.E., proposed the toast of the President. Mr. Robertson had been a very painstaking and energetic president during the past three years. He had visited eleven sections during wartime and was proposing to go to Leeds, Glasgow, and Bangor in the near future. As Engineer-in-Chief, London Transport, during the first part of the war and then Chief Civil Engineer to the Southern Railway, Mr. Robertson had had years of intense activity, yet found time to look after the interests of the Institution. They thanked him for what he had done and wished him the greatest success during his present year of office as President.

Mr. Robertson thanked Colonel Gore-Browne and Mr. Quartermaine for their words of appreciation. He was very sensible of the honour of being elected president for a fourth year. The membership in 1919 was 1,255, in 1939 it was 2,981, and in 1945 it reached the record figure of 4,200, and he knew of no reason why the numbers should not double in the next ten years. He thought the Institution would be able to take a greater part in the life of the railways of this country. It was a democratic society and some 77 per cent. of its membership comprised staff of the grade of Inspector and below; in fact, 57 per cent. of the total membership was of the grade of ganger and under. He felt the Institution was safely established, the finances were sound and it had a progressive policy. During his three years of office he had the help of the Institution's officers, they had been invaluable in their assistance and advice, and in particular he would mention Mr. Janes, the Secretary, and Mr. Lawson, their Treasurer. Permanent way men liked the Institution; it made their life more interesting.

Mr. J. C. L. Train then proposed the toast of H.M. Forces, coupled with the name of Lt.-Colonel H. B. Everard (L.M.S.R.) He suggested the similarity of the Forces with their N.C.Os. and officers and the railways with their inspectors and officers. He mentioned the Army officers' interest in their men and appealed to them who had returned from service to do the same on the railway. They had been wonderfully united during the war so let them keep that up during the peace.

Lt.-Colonel Everard said he felt honoured to reply to the toast so ably proposed by Mr. Train. There was no doubt that without the permanent way of Great Britain it would have been impossible to have won, not only this war, but the previous one. Permanent way men had worked day and night under bombs and incendiaries with the result that important munitions and supplies had never been held up. Colonel Everard said that, having been a prisoner for three years he had not been able to do any railway work himself, but from behind barbed wire he had watched Germans and forced labour gangs repairing railway tracks damaged by our bombs.

Toast of the Guests

Mr. W. K. Wallace, C.B.E., proposed the toast of the Guests, and said they were fortunate in being able to entertain Colonel E. Gore-Brown, the Chairman of the Southern Railway Company, Sir Alan Mount, of the Ministry of Transport, and Brigadier H. L. F. Dawes, Secretary, Southern Railway, and last, but not least, the ladies.

Sir Alan Mount responded on behalf of the guests and remarked that the railways were being criticised in rather a severe way at the moment, but they had won through the war years with very little encouragement. The railways entered the war at the peak of their efficiency. The density of traffic was five times that of America, and last year 150 million passenger journeys were made per each fatality.

The final toast, "Absent Friends," was proposed by Mr. A. W. M. Dyke, and the proceedings, which had been interspersed with musical items, concluded with the singing of "Auld Lang Syne."

Notes and News

Mersey Railway Company.—The annual meeting of the Mersey Railway Company will be held at Winchester House, Old Broad Street, London, E.C.2, on March 15.

Locomotive Superintendent Required.—A railway engineer is required by a London company to take charge of a new department for servicing diesel-electric locomotives. For particulars see Official Notices on page 135.

Senior Locomotive Draughtsman Required.—A senior locomotive draughtsman is required, London location, to prepare designs of mechanical parts of electric and diesel-electric locomotives and coaches. See Official Notices on page 135.

G.W.R. Annual Meeting.—The annual general meeting of the Great Western Railway Company will be held at the Great Western Royal Hotel, Paddington Station, W.2, at 11.30 a.m. on Wednesday, March 6.

Cost-of-Living Index.—At January 1 the official cost-of-living index figure was 103 points above the level of July, 1914, showing no change as compared with a month earlier. At January 1, 1939, it was 55 points above July, 1914.

Locomotive Inspector Required.—A locomotive inspector is required by the Nigerian Government Railway for one tour of from 12 to 24 months with possibility of permanency. For full particulars see Official Notices on page 135.

British-built Locomotives in South Africa.—The South African Railways have now received seventy of the class "15F" 4-8-2 locomotives which are being built in Great Britain. Thirty of these engines were ordered from Beyer, Peacock & Co. Ltd., and were described in an illustrated article in *The Railway Gazette* of December 8, 1944. All these have now been delivered. An order for sixty engines of the same class was placed with the North British Locomotive Co. Ltd., of which forty had been delivered by November last. The new locomotives have eased the traffic position, but the shortage of motive power in South Africa is still acute.

"Paper Aids Progress" Exhibitions.—"Paper Aids Progress" is the title of two identical exhibitions, prepared by the Waste Paper Recovery Association, to emphasise the need for the continuance of waste paper salvage on its wartime scale. One of these exhibitions has been taken over by the Ministry of Supply and will be used to stimulate local salvage drives in different parts of the country; it will be shown shortly at Slough. The other commences a tour of boroughs in the London area this month; its first showing is at Bermondsey. By showing how paper enters into almost every aspect of the nation's life, these exhibitions stress the part it is playing in our industrial and social reconstruction.

Sheffield & District Centre, Institute of Transport.—The Council of the Institute of Transport has sanctioned the establishment of a Sheffield & District Centre of the Institute. The Chairman of the new centre is Mr. H. R. Caulfield-Giles, M.Inst.T. (Traffic Manager, Newton, Chambers & Co. Ltd.). The Vice-Chairmen are Messrs. D. M. Gracie, M.B.E., M.Inst.T. (District Goods Manager, Sheffield, L.N.E.R.), R. C. Moore, M.Inst.T. (General Manager, Sheffield Corporation Transport), E. J. Shaw, A.M.Inst.T. (Partner & Controller, E. & E. J. Shaw); and the Honorary Secretary is Mr. N. Rylance, M.Inst.T. (General Manager, Rotherham Corporation Transport).

Whitechapel & Bow Railway Company.—The ordinary general meeting of the Whitechapel & Bow Railway Company will be held at 55, Broadway, Westminster, London, S.W.1, on February 5 at 2.45 p.m. to transact the ordinary business of the company.

Institute of Transport Luncheon and Address.—An Institute of Transport luncheon will be held on February 5, at 12.45 for 1.15 p.m., at the Connaught Rooms, Great Queen Street, London, W.C.2. An address will be given by the Rt. Hon. Lord Catto.

Mechanical Engineer Required.—A leading firm of industrial consultants has a vacancy for a mechanical engineer. Applicants must hold a university degree and have had extensive practical experience of modern industrial production methods. See Official Notices on page 135.

Weymouth & Portland Railway Company.—The ordinary half-yearly general meeting of the Weymouth & Portland Railway Company will be held on February 7 at 12 noon for the general purposes of business and for the election of a director and of an auditor in the places of those retiring by rotation. The transfer books of the company will be closed from January 24 until February 7, both days inclusive.

Great Northern Railway Company (Ireland).—The directors have resolved, subject to audit, to recommend to the proprietors the payment, on March 15 next, of the following dividends and bonus (less tax) in respect of the year ended December 31, 1945: dividend of £2 per cent. (final) on the consolidated 4 per cent. guaranteed stock, making, with the interim dividend of £2 per cent. paid on September 1 last, £4 per cent. for the year; dividend of £4 per cent. on the consolidated 4 per cent. preference stock; dividend of £2 10s. per cent. and a bonus of 10s. per cent. on the ordinary stock.

L.N.E.R. Electrification to Shenfield.—The L.N.E.R. announces that instructions have been issued for the work of electrifying the Liverpool Street and Fenchurch Street to Shenfield lines to be resumed and pressed forward as rapidly as the availability of labour and materials will permit. This electrification will be carried out on the direct current 1,500-volt overhead conductor system. During 1938 the L.N.E.R. placed large contracts for the electrification of these lines, totalling 25 route-miles. (See *The Railway Gazette* of November 4, 1938.) On the outbreak of the recent war these works and the construction of 276 new electric coaches had to be suspended.

Scottish Motor Traction Co. Ltd.—This company, in which the London Midland & Scottish and the London & North Eastern Railway Companies have each a large shareholding, reports that for the year ended October 31, 1945, the profit on operations, after providing for all charges, including depreciation, was £913,633, and dividends from subsidiaries, interest, etc., were £520,655, making £1,434,288. From this has been deducted £861,601 for income tax and E.P.T. and directors' fees, leaving a balance available of £572,687. Preference dividend (6½ per cent., less tax) requires £32,498; £185,774 is allocated to reserve, and £69,125 is written off goodwill. The dividend on the ordinary stock is 1s. 3d. on each 5s. unit, free of tax, against 8d. free of tax last year, and absorbs £251,495. The balance of £33,794 is carried forward against £29,679 brought in.

L.N.E.R. Catering Training Centre.—A training centre for the instruction of staff in all branches of catering, with advanced specialist courses for cooks, chefs, managers and manageresses, is to be set up by

British and Irish Railway Stocks and Shares

Stocks	Highest 1945	Lowest 1945	Prices Jan. 29, 1946	Prices Rise/Fall
G.W.R.				
Cons. Ord.	60¾	47½	54½	— ½
5% Con. Pref. ...	124½	104½	114½	— —
5% Red. Pref. (1950)	107¾	101½	103	— —
5% Rt. Charge ...	137¾	120	126½	+ 2
5% Cons. Guar. ...	135½	117	121½	— —
4% Deb.	118	106	112	+ ½
4½% Deb.	119½	108	111½	+ 2
4½% Deb.	124½	111½	117	+ 3
5% Deb.	138	124	126	— —
2½% Deb.	83	74½	81½	— —
L.M.S.R.				
Ord.	33	23½	27½	— ½
4% Pref. (1923) ...	65	50	56	— —
4% Pref.	80¾	69½	78½	+ ½
5% Red. Pref. (1955)	106½	99½	101½	— —
4% Guar.	106½	97	103	— —
4% Deb.	110½	102	107½	— —
5% Red. Deb. (1952)	110½	103½	106	— —
L.N.E.R.				
5% Pref. Ord. ...	8½	5½	6	— ⅛
Def. Ord.	4½	2½	3	— ⅛
4% First Pref. ...	62½	49½	55	— —
4% Second Pref. ...	33½	24½	28½	— ½
5% Red. Pref. (1955)	103	96	98	— —
4% First Guar. ...	104½	95	100 xd	— ½
4% Second Guar. ...	97	89½	92½xd	— ½
3% Deb.	91¾	82½	91	+ ½
4% Deb.	109½	101	107	+ ½
5% Red. Deb. (1947)	103½	100	101	— —
4½% Sinking Fund Red. Deb. ...	106⅜	103	103½	— —
SOUTHERN				
Pref. Ord.	79½	63	72	— —
Def. Ord.	27	20½	22½	— ½
5% Pref.	124½	104	114	— —
5% Red. Pref. (1964)	117	107	109½	+ 1
5% Guar. Pref. ...	135¾	117	121½	+ 1
5% Red. Guar. Pref. (1957)	117	106½	109½	+ 1
4% Deb.	117	104½	111½	— —
5% Deb.	137	124	126½	— —
4% Red. Deb (1962-67)	112	104½	106½	— —
4% Red. Deb. (1970-80)	113½	104	107½	+ 1
FORTH BRIDGE				
4% Deb.	106	103	103	— —
4% Guar.	106	101	102	— 1
L.P.T.B.				
4½ "A"	125	117	123½	+ 1
5% "A"	135	127	133½	+ 1
3% Guar. (1967-72)	100	97½	100	— —
5% "B"	125½	115	117½	— —
"C"	70	58	63	— —
MERSEY				
Ord.	37	31½	32	— —
3% Perp. Pref. ...	72½	68½	70	— —
4% Perp. Deb. ...	104½	104	103	— —
3% Perp. Deb. ...	84	78½	81	— —
IRELAND*				
BELFAST & C.D.				
Ord.	8½	6	7½	— —
G. NORTHERN				
Ord.	34	24½	40½xd	— ½
Pref.	52½	42½	61 xd	— 2
Guar.	80	68	88	— —
Deb.	97½	87½	97½	— —
IRISH TRANSPORT				
Common	—	—	90½	+ 1½
3% Deb.	—	—	101	+ ⅜

* Latest available quotation

OFFICIAL NOTICES

LOCOMOTIVE SUPERINTENDENT. Railway Engineer required by London company to take charge of new department for servicing Diesel Electric Locomotives. Extensive locomotive and carriage operating and maintenance experience (steam and/or diesel) essential. Salary, £800-£1,000 per annum. Superannuation Fund. Replies in strictest confidence to Box No. F3, c/o *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

SENIOR LOCOMOTIVE DRAUGHTSMEN required to prepare designs of mechanical parts of electric and diesel-electric locomotives and coaches. Applicants should be experienced draughtsmen able and willing to work largely on own initiative. Technical education to Degree or Higher National Certificate standard desirable but not essential. Substantial salary, bonus and Superannuation Fund. London location. Confidential applications to Box F2, c/o *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

Crown Agents for the Colonies

COLONIAL GOVERNMENT APPOINTMENTS

APPLICATIONS from qualified candidates are invited for the following post:—

LOCOMOTIVE INSPECTOR required by the Nigerian Government Railway for one tour of 12 to 24 months with possibility of permanency. Salary: £500—£12—£560 a year. Aggregate allowance of £6 a month. Local allowance £30 a year and for married men a separation allowance between £84 and £204 a year according to number of dependants. Outfit allowance £60. Free passages and quarters. Candidates, between the ages of 35 and 45, should have served on a British railway for 2 years as a top-rate Main Line Driver after having passed through the usual cleaning and firing courses, *or* have served on a Colonial railway for not less than 2 years.

Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/N/15014.

MECHANICAL ENGINEER wanted for appointment to the permanent staff of a leading firm of Industrial Consultants. Applicants should be about 30 years of age, hold a University degree and have had extensive experience of modern industrial production methods. Salary from £800 according to age and experience. Write in confidence, stating qualifications, to Box 12, c/o *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

the L.N.E.R. The refreshment room buildings at Marylebone Station will be used, thereby enabling practical training to be included. Courses will start in about five weeks' time, and the training will be free to existing staff and to those joining the L.N.E.R. Refreshment Room Services, who will be paid while under instruction.

Great Central & Midland Joint Committee.—To prepare warrants for the dividend on the 3½ per cent. guaranteed stock for the half-year ended December 31, 1945, payable on February 15, 1946, the last date for receiving transfers is February 7, 1946, at 5 p.m. As between the committee and the holders of such stock the only persons entitled to dividend shall be those then on the register.

More Restaurant Cars on G.W.R. Trains.—Another eight Great Western Railway train services will have restaurant car facilities on and from Monday next, February 4. They will be:—

11.5 a.m. Paddington to Birkenhead.
11.35 a.m. Birkenhead to Paddington.
8.30 a.m. Cheltenham to Paddington.
4.25 p.m. Paddington to Cheltenham.
8.55 a.m. Paddington to Swansea.
4.40 p.m. Swansea to Paddington.
12.15 p.m. Worcester to Paddington.
6.5 p.m. Paddington to Worcester.

With the restoration of these services the G.W.R. will have restaurant cars on 26 expresses covering all its main-line routes.

Oldham, Ashton-under-Lyne & Guide Bridge Junction Railway Company.—The ordinary general meeting of the proprietors of the Oldham, Ashton-under-Lyne & Guide Bridge Junction Railway Company will be held in the board room of the London & North Eastern Railway Company, Marylebone Station, London, N.W.1, on February 12 at 11 a.m., for the transaction of the ordinary business of the company. To prepare warrants for the dividend on the shares of the company for the half-year ended December 31, 1945, payable on March 1, 1946, the last date for receiving transfers is February 8 at 5 p.m.; and as between the company and the holders of such shares the only persons entitled to dividend shall be those then on the register.

New Train on L.M.S.R. Euston—Liverpool Service.—A train of new coaches has been placed on the L.M.S.R. Euston—Liverpool service, and is running on the 10.35 a.m. down and 5.25 p.m. up expresses. An illustrated booklet has been prepared for distribution to passengers on the trains, which explains that the carriages incorporate such modern improvements as can be effected without radical alteration in existing design, the short-term policy of the L.M.S.R. being to get clean and comfortable carriages back on the line as rapidly as possible. Meanwhile new carriage designs are being worked out in drawing offices and research laboratories. The contributions of research to passenger comfort and safety are emphasised in the text and illustrations.

Joint Memorial Service for Engineers.—The Dean of Westminster, at the request of the Councils of the Institution of Civil Engineers, the Institution of Mechanical Engineers and the Institution of Electrical Engineers, has consented to arrange a joint memorial service at Westminster Abbey in memory of those members who lost their lives by enemy action in the recent war. The date and time fixed for the service are February 21 at 12 noon, and members who wish to be present should apply to the Secretaries of their respective Institutions for tickets of admission before February 7.

Forth Bridge Railway Company.—The ordinary general meeting of the proprietors of the Forth Bridge Railway Company will be held in the board room of the London & North Eastern Railway Company, at Marylebone Station, London, N.W.1, on February 12 at 10 a.m., for the transaction of the ordinary business of the company.

Collision near Grantham, L.N.E.R.—Four coaches of the 10.10 p.m. Kings Cross to Edinburgh express were damaged when a parcels train from Kings Cross to York collided with it in the rear, south of Grantham Station, L.N.E.R., in the early morning of January 29. Two passengers and the guard of the Edinburgh train were slightly injured. One of the passengers was Mr. C. G. G. Dandridge, Passenger Manager, Southern Area, L.N.E.R. Both the injured passengers, who received shock and bruises, were able to continue their journey.

Stewarts and Lloyds of South Africa Limited.—Net profit after taxation, year to June 30, 1945, £210,971 (previous year, £205,085); to general reserve, £100,000 (against £75,000 to contingencies reserve); ordinary dividend, 20 per cent. (same); forward, £81,824. It is stated that the year's trading was successful both in general merchanting and in respect of the products of the Vereeniging tube works. On December 12 last a meeting at Vereeniging approved the creation of £410,000 new ordinary shares of £1 each, to be paid up in full from reserve and distributed in the proportion of one new share for each ordinary share registered on November 30. During the year £60,000 was invested in 60,000 £1 ordinary shares in the Vanderbijl Engineering Corporation.

Contracts and Tenders

David Brown & Sons (Huddersfield), Ltd., has opened an office at 71 & 72, Atlantic Chambers, 7, Brazennose Street, Manchester, 2 (telephone: Blackfriars 0011).

A. C. Wickham Limited, Coventry, announces that it has been appointed sole agent and engineering representative for the gear cutting machines designed and manufactured by the Power Plant Co. Ltd., West Drayton, Middlesex. The ranges of machines manufactured comprise single-headed and double-headed hobbing machines and "Rapidan" gear shaping machines.

Below is a list of orders placed recently by the Egyptian State Railways:—

British Insulated Callender's Cables Limited: Wire cables.
Siemens Brothers & Co. Ltd.: Electrical material.
Johnson & Phillips Limited: Electrical material.
Alley & MacLellan Limited: Steam stop valves.
W. H. Wilcox & Co. Ltd.: Steam stop valves.
J. Blakeborough & Sons Ltd.: Steam stop valves.
Clyde Crane & Booth Limited: Plugs, etc.
British Thomson-Houston Co. Ltd.: Relay contacts.
Greenwood & Batley Limited: Pressure gauge
North British Locomotive Co. Ltd.: Wheels and tyres.
Taylor Bros. & Co. Ltd.: Tyres.
Holophane Limited: Holophane lamp shades and lanterns.
W. T. Henley's Telegraph Works Co. Ltd.: Cables and wires.
Automatic Telephone & Electric Co. Ltd.: Secrecy terminal equipment.
J. Stone & Co. Ltd.: Train lighting material and copper wire.
Dorman Long & Co. Ltd.: Rails.
Docker Brothers: Chemicals.
Arthur Balfour & Co. Ltd.: Hand tools.
Nye & Menzies Limited: Mild-steel unequal angles.
Birmingham Battery & Metal Co. Ltd.: Bars, tubes, wire rods.
Imperial Chemical Industries Limited: Bars, tubes, wire rods.
Babcock & Wilcox Limited: Compound and chemicals.

Forthcoming Meetings

February 8 (*Fri.*).—The Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, 5.30 p.m. "Let's Talk of Troubles."

February 8 (*Fri.*).—The Institution of Railway Signal Engineers, at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2, 6 p.m. "Manual Block Working," by Mr. B. F. Wagenrieder.

Railway Stock Market

International affairs and home political developments had a restraining influence on stock markets, although long-dated British Funds held recent gains. National War Bonds and Savings Bonds, however, were fractionally lower and generally gilt-edged lost part of their recent strength, the view now gaining ground that the expected big new Government loan is likely to be left until after the Budget, which, it is hoped, will bring further reduction in taxation. A feature was continued demand for leading industrial shares; Turner & Newall and Dunlop Rubber recorded further gains, and steel shares held firm: stores shares were favoured on hopes of improved results. Sharp gains in Borax Consolidated deferred and also in British Celanese were attributed to American buying, and improvements in a number of radio and television shares also arose from U.S. demand. The nationalisation groups, however, were inclined to ease; attention was centred on discussion on the Coal Bill. Colliery shares lost a few pence, but electricity supply issues made further gains, although home railway junior stocks showed fractional declines in the absence of demand.

Whereas home railway junior stocks were slightly lower, prior charges have shown improvement again, including Great Western and Southern preference stocks. Very little selling was reported, but on the other hand, buyers were adopting a waiting attitude. There is every confidence that the impending dividends are likely to be maintained; but the attitude of caution reflects the view that the position of the railways in relation to nationalisation is likely to be indicated during the next two months. The annual meeting of the railways due in March, in any case will be expected to provide interesting information as to the attitude of the railways to nationalisation, and views as to the basis of fair compensation for stockholders. Rightly or wrongly the belief appears to be gaining ground, therefore, that the time is approaching when it will be easier to form more definite opinions as to the merits of home railway stocks and the question of nationalisation.

Compared with a week ago, Great Western further receded from 54⅜ to 54¼, but the 5 per cent. preference improved anew to 114½, and the guaranteed stock at 122 was two points higher, and the 4 per cent. debentures gained a point at 112. L.M.S.R. ordinary moved back from 27⅞ to 27½. On the other hand, L.M.S.R. senior preference at 79 and the 1923 preference at 56 were both higher, the guaranteed stock further strengthened to 103 and the 4 per cent. debentures held their recent rise to 107½.

Among L.N.E.R. stocks the first preference at 55 was fractionally better, but the second preference eased from 28⅜ to 28⅛; the 3 per cent. debentures at 91 improved and the 4 per cent. debentures at 107 have been well maintained. Southern deferred receded from 23 to 22¾, but the preferred was maintained at 72. Southern 4 per cent. debentures at 112 gained a further point, and the 5 per cent. preference at 114½ was well maintained. Elsewhere, London Transport issues held firm with the "C" unchanged at 63. In his statement, the Chairman of Thomas Tilling, Limited, refers to the failure of London Transport to pay the standard rate of dividend on the "C" stock and expresses the view that "the Government should provide a solution." There is, of course, continued uncertainty whether London Transport will be included in the Government's big transport nationalisation schemes; but if so, it would seem only fair that holders of the "C" stock would have to be compensated on a basis of the full standard rate of dividend.

In contrast with dullness in home rails, Argentine rails have been in demand at higher prices, attributed to talk of the possibility of a new Government in the Argentine. As compared with a week ago, Buenos Ayres Great Southern has risen from 10¾ to 11¼, and the 6 per cent. preference was 18¼ and the 4 per cent. debentures rose further from 65¾ to 67. Buenos Ayres & Pacific 1912 debentures rose to 44½, Buenos Ayres Western 4 per cent. debentures to 63; Central Argentine 4 per cent. debentures moved up from 56 to 57½. Central Uruguay second debentures also moved higher at 29½. In other directions, Antofagasta ordinary and preference rose further to 11¼ and 44½ respectively and Nitrate Rails shares were also higher at 81s. Best prices were not held, but Canadian Pacifics reflected the continued strength of dollar stocks and at 27 were again higher on balance. Further declines of up to a point were recorded by French railway sterling bonds. Manila Railway issues attracted some attention. Beira Railway certificates were active up to 36s. 6d.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1944/5	No. of Week	Aggregate traffics to date: Totals 1945/6	Aggregate traffics to date: Totals 1944/5	Aggregate traffics to date: Increase or decrease	Shares or Stock	Prices: Highest 1945	Prices: Lowest 1945	Prices: Jan. 29 1946
				£	£		£	£	£				
South & Central America	Antofagasta	834	20.1.46	34,620	+ 580	3	94,680	92,990	+ 1,690	Ord. Stk.	12	8⅜	11
	Arg. N.E.	753	19.1.46	ps.253,100	—ps. 41,200	29	ps. 8,699,300	ps.8,621,400	+ ps. 77,900	"	10	5⅜	7
	Bolivar	174	Dec., 1945	5,142	— 803	52	8,245	63,997	— 5,572	6 p.c. Deb.	8½	5½	6½
	Brazil	—	—	—	—	—	—	—	—	Bonds	25	17	28
	B.A. Pacific	2,771	19.1.46	ps.2,252,000	—ps. 16,000	29	ps.62,549,000	ps.59,041,000	+ ps.3,508,000	Ord. Stk.	7	5	6¼
	B.A.G.S.	5,080	19.1.46	ps.3,824 000	—ps.788,000	29	ps.94 308 0 0	ps.89 955,000	+ ps.4,353,000	Ord. Stk.	13⅜	10½	11½
	B.A. Western	1,924	19.1.46	ps.1,193,000	+ ps. 26,000	29	ps. 34 325,000	ps.32 435,000	+ ps.1,890,000	"	12¾	9½	11½
	Cent. Argentine	3,700	19.1.46	ps.3,125,850	+ ps.125,950	29	ps. 88,760,400	ps.82,886,550	+ ps.5,873,850	"	9¾	7	7⅞
	Do.	—	—	—	—	—	—	—	—	Dfd.	5	2⅜	4
	Cent. Uruguay	970	19.1.46	43,441	+ 4,587	29	1,108,620	963,879	+ 144,741	Ord. Stk.	7½	4	8½
	Costa Rica	262	Nov., 1945	26,903	+ 13,593	22	155,029	111,223	+ 43,806	Stk.	16½	13	15
	Dorada	70	Dec., 1945	28,876	— 1,003	52	359,365	324,822	+ 34,543	1 Mt. Deb.	103	102	101½
	Entre Rios	808	19.1.46	ps.375,700	— ps.36,600	29	ps 12,221,700	ps.11,432,300	+ ps. 789,400	Ord. Stk.	7½	4½	7
	G.W. of Brazil	1,030	19.1.46	35,300	+ 5,500	3	89,400	80,900	+ 8,500	Ord. Stk.	30/-	23/6	23/9
	Inter. Ctl. Amer.	794	Dec., 1945	$802,536	+ $182,230	52	$8,932,750	$7,447,799	+ $1,484,951	—	—	—	—
	La Guaira	22¾	Dec., 1945	5,355	— 1,167	52	74,152	90,117	— 15,965	5 p.c. Deb.	78	70	65½
	Leopoldina	1,918	19.1.46	54,910	+ 1,837	3	145,654	129,151	+ 16,503	Ord. Stk.	4½	3½	4
	Mexican	483	21.1.46	ps.845,890	+ ps.231,500	3	ps. 2,119,200	ps. 1,596,900	+ ps. 522,300	Ord. Stk.	¼	¼	1¼
	Midland Uruguay	319	Dec., 1945	20,392	+ 3,432	25	115,193	100,831	+ 14,362	—	—	—	—
	Nitrate	382	15.1.46	11,016	+ 4,372	2	11,016	6,644	+ 4,372	Ord. Sh.	75 6	67/6	81/3
	N.W. of Uruguay	113	Nov., 1945	5,621	— 463	20	29,012	30,605	— 1,593	—	—	—	—
	Paraguay Cent.	274	18.1.46	£50,460	— £10,755	29	£1,758,251	£1,759,583	— £1,332	Pr. Li.Stk.	79⅞	77	75½
	Peru Corp.	1,059	Dec., 1945	145,207	+ 12,034	26	849,478	769,298	+ 80,180	Pref.	10⅜	7⅞	10
	Salvador	100	Nov., 1945	c 91,000	+ c 4,000	20	c 467,000	c 410,000	+ c 57,000	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	60½	50½	56½
	Taltal	156	Dec., 1945	3,200	+ 810	26	15,520	15,165	+ 355	Ord. Sh.	17/-	10/6	15/-
	United of Havana	1,301	19.1.46	45,684	— 4,371	29	1,300,538	1,395,592	— 95,054	Ord. Stk.	3	1	2
	Uruguay Northern	73	Dec., 1945	1,830	+ 267	25	10,894	8,887	+ 2,007	—	—	—	—
Canada	Canadian National	23,569	Nov., 1945	6,861,200	— 534,600	48	79,651,400	80,524,600	— 873,200	—	—	—	—
	Canadian Pacific	17,037	21.1.46	1,065,400	— 27,000	3	2,998,000	2,973,000	+ 25,400	Ord. Stk.	24	14⅜	27½
Various	Barsi Light†	202	Nov., 1945	31,702	+ 10,057	33	198,345	186,645	+ 11,700	Ord. Stk.	131	123	120½
	Beira	204	Nov., 1945	66,158	— 20,626	8	136,746	165,333	— 28,587	—	—	—	—
	Egyptian Delta	607	10.12.45	20,607	— 1,979	37	437,730	481,700	— 43,970	Prf. Sh.	10	8⅛	7⅛
	Manila	—	—	—	—	—	—	—	—	B. Deb.	71	55½	73½
	Mid. of W. Australia	277	Nov., 1945	17,065	— 971	20	64,836	101,007	— 19,105	Inc. Deb.	97½	85	85
	Nigeria	1,900	24.11.45	92,839	— 6,266	34	1,944,202	2,199,250	— 255,048	—	—	—	—
	Rhodesia	2,445	Nov., 1945	501,077	— 40,457	8	1,017,489	1,059,033	— 41,544	—	—	—	—
	South African	13,301	15.12.45	1,101,920	+ 55,664	40	37,530,165	33,750,937	+ 3,779,228	—	—	—	—
	Victoria	4,774	Oct., 1945	1,314,455	+ 22,288	—	—	—	—	—	—	—	—

† Receipts are calculated @ 1s. 6d. to the rupee